

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

MATHEMATICS

for
Class 3



PUNJAB CURRICULUM AND
TEXTBOOK BOARD, LAHORE

Contents

Topic	Page	Topic	Page
Numbers	1 - 33	Measurement	114 - 124
Addition	34 - 53	Fractions	125 - 143
Subtraction	54 - 71	Time	144 - 153
Repeated Addition & Multiplication	72 - 99	Shapes	154 - 160
Repeated Subtraction & Division	100 - 113	Picture graphs	161 - 162

Authors: **Saima Khalid** (M. Ed, Education Consultant, Plan International, Chairperson, Early Years Learning Association)
Syed Tasadduq Hussain Bokhari (M. Phil, Education Consultant)

Reviewed by: **Muhammad Shakoor** (Ex-Principal, Crescent Model Higher Secondary School, Lahore)
Rahila Maheen (Senior Mathematics Coordinator)

Designing: **Habiba Malik**
Batool Hussain

Published by :

Printed by :

All Rights reserved with the Punjab Curriculum and Textbook Board, Lahore.
No part of this book can be copied, translated, reproduced or used for preparation of test papers, guide books, key notes and help books.

Date of Printing

Edition

Impression

Copies

Price

Numbers to 100,000

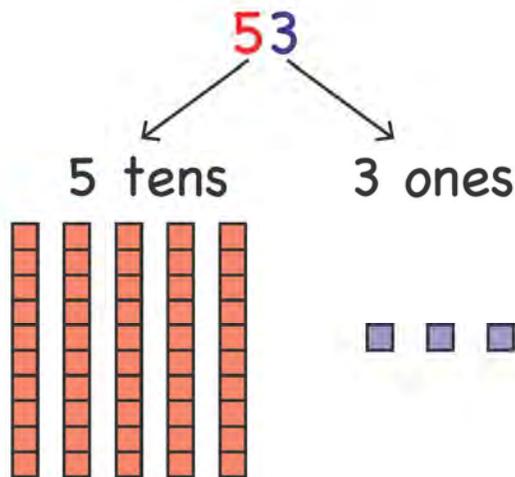


■ 1 block = 1 one

Group of 10 blocks = 1 ten



How many tens and ones are in 53?



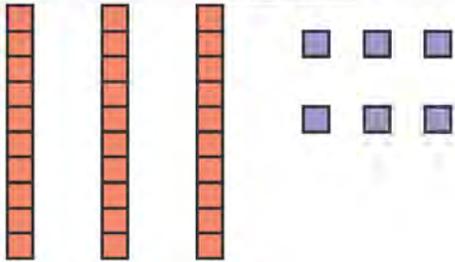
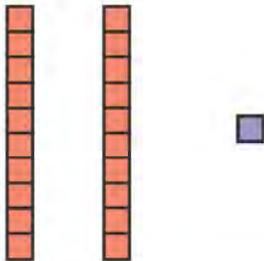
There are 5 tens. They represent 50 blocks.

There are 3 ones. They represent 3 blocks.

$$53 = 5 \text{ tens } 3 \text{ ones}$$

$$53 = 50 + 3$$

Count the blocks. Write tens and ones.

Blocks	Tens	Ones
		
		

Write the number of tens and ones.

$$42 = \underline{4} \text{ tens } \underline{2} \text{ ones}$$

$$84 = \underline{\quad} \text{ tens } \underline{\quad} \text{ ones}$$

$$30 = \underline{\quad} \text{ tens } \underline{\quad} \text{ ones}$$

$$35 = \underline{\quad} \text{ tens } \underline{\quad} \text{ ones}$$

Write tens and ones.

$$63 = \underline{60} + \underline{3}$$

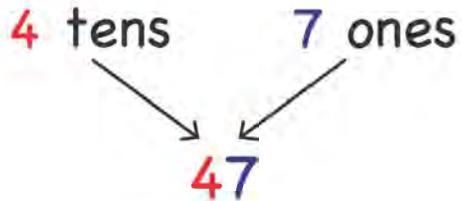
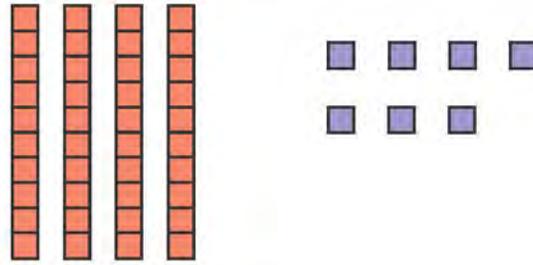
$$21 = \underline{\quad} + \underline{\quad}$$

$$78 = \underline{\quad} + \underline{\quad}$$

$$57 = \underline{\quad} + \underline{\quad}$$

$$84 = \underline{\quad} + \underline{\quad}$$

Look at this example.



$$4 \text{ tens } 7 \text{ ones} = 47$$

Read tens and ones. Write the number.

$$5 \text{ tens } 3 \text{ ones} = \underline{53}$$

$$6 \text{ tens } 2 \text{ ones} = \underline{\hspace{2cm}}$$

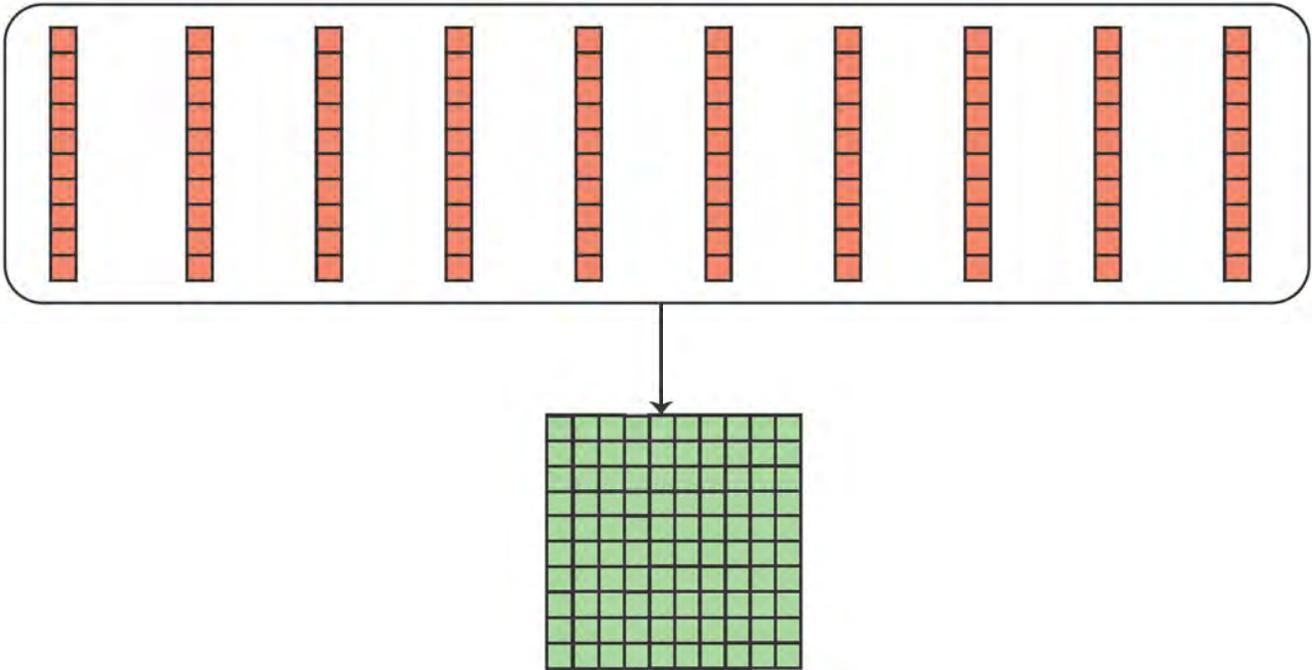
$$7 \text{ tens } 4 \text{ ones} = \underline{\hspace{2cm}}$$

$$4 \text{ tens } 9 \text{ ones} = \underline{\hspace{2cm}}$$

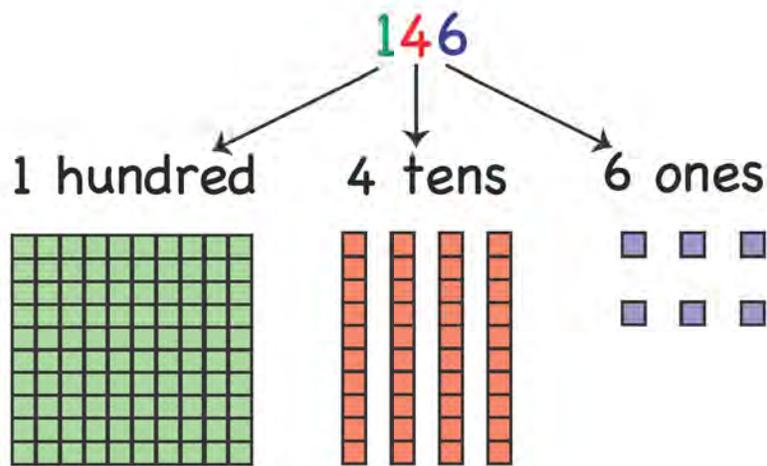
$$8 \text{ tens } 5 \text{ ones} = \underline{\hspace{2cm}}$$

$$2 \text{ tens } 7 \text{ ones} = \underline{\hspace{2cm}}$$

10 tens joined together make a hundred.



How many hundreds, tens and ones are in 146?



There is 1 hundred, 4 tens and 6 ones in 146.

$$146 = 1 \text{ hundred } 4 \text{ tens and } 6 \text{ ones}$$

Write the number of hundreds, tens and ones.

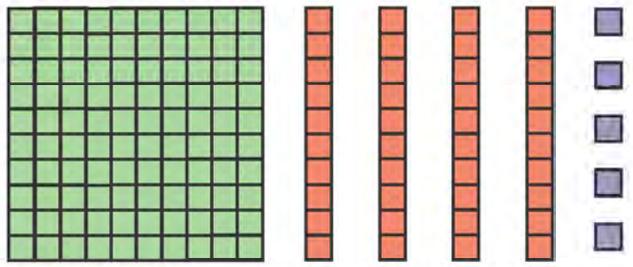
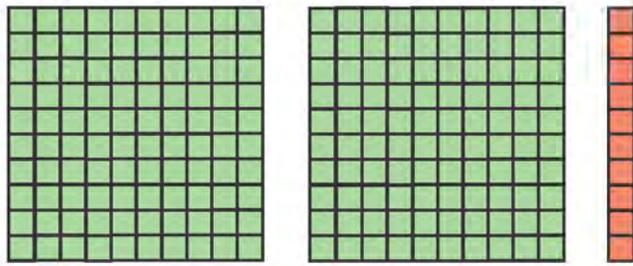
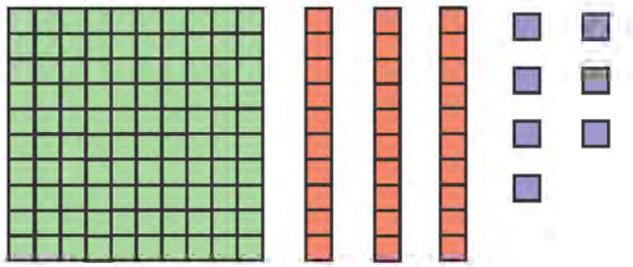
186 = 1 hundred 8 tens 6 ones

519 = _____ hundreds _____ tens _____ ones

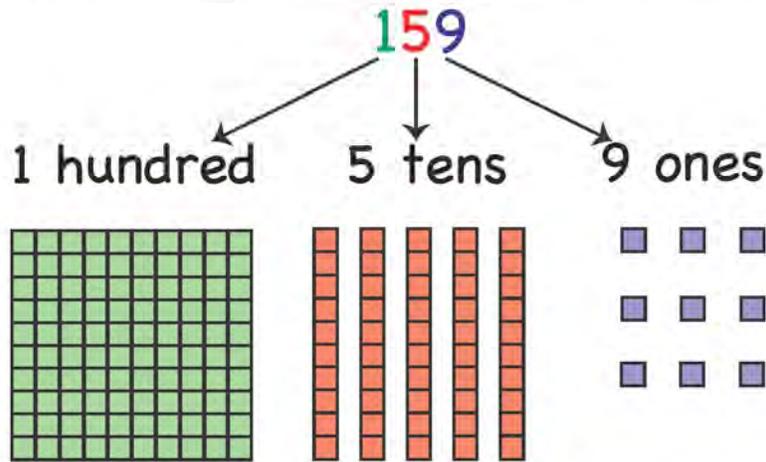
365 = _____ hundreds _____ tens _____ ones

430 = _____ hundreds _____ tens _____ ones

Count and write hundreds, tens and ones.

	Hundreds	Tens	Ones
			
			
			

How many hundreds, tens and ones are in 159?



There is 1 hundred, 5 tens and 9 ones in 159.

$$159 = 100 + 50 + 9$$

Write the number of hundreds, tens and ones.

$$348 = \underline{300} + \underline{40} + \underline{8}$$

$$491 = \underline{\quad} + \underline{\quad} + \underline{\quad}$$

$$582 = \underline{\quad} + \underline{\quad} + \underline{\quad}$$

$$197 = \underline{\quad} + \underline{\quad} + \underline{\quad}$$

$$197 = \underline{\quad} + \underline{\quad} + \underline{\quad}$$

$$197 = \underline{\quad} + \underline{\quad} + \underline{\quad}$$

Ali has 3 coins. The number on the coin shows it's place value.



One

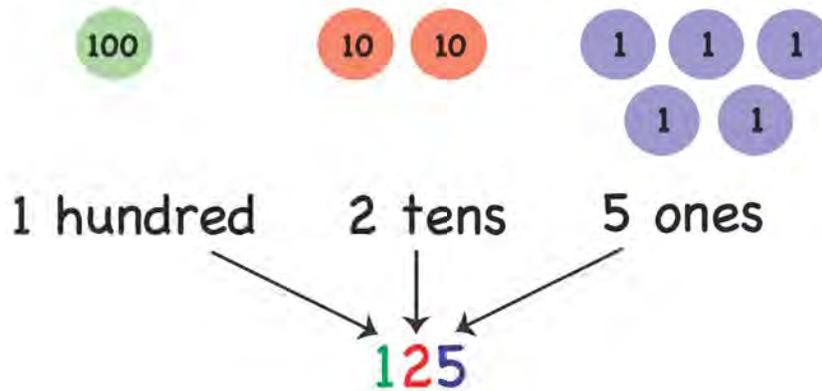


Ten



Hundred

Look at this example.



1 hundred 2 tens 5 ones = 125

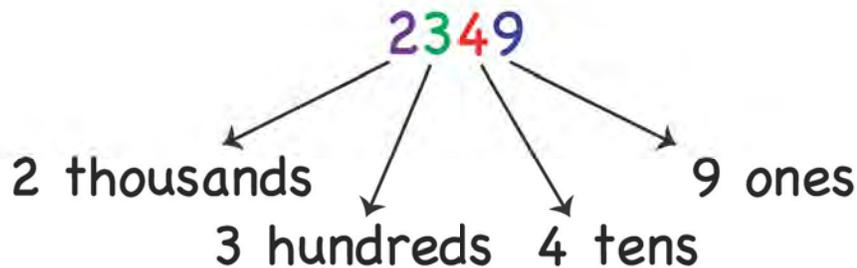
Count hundreds, tens and ones. Write the number.

	Hundreds	Tens	Ones	Number
	3	2	1	321

Ali has 10 coins of one hundred each.

100 = 1 hundred

Group of 10 hundreds = 1 thousand



2349 = 2 thousands 3 hundreds 4 tens 9 ones

Write thousands, hundreds, tens and ones.

	Thousands	Hundreds	Tens	Ones
2917	2	9	1	7
4625				
5834				
6831				
8743				

1000

100 100 100

10 10

1 1 1

10 10

1 1 1

1 thousand

3 hundreds

4 tens

6 ones

1346

1 thousand 3 hundreds 4 tens 6 ones = 1346

Read thousands, hundreds, tens and ones. Write the number.

2 thousands 5 hundreds 7 tens 9 ones = 2579

3 thousands 6 hundreds 5 tens 2 ones = _____

5 thousands 7 hundreds 8 tens 1 one = _____

4 thousands 9 hundreds 2 tens 3 ones = _____

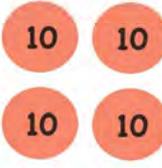
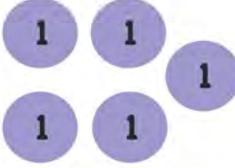
6 thousands 2 hundreds 3 tens 9 ones = _____

5 thousands 4 hundreds 2 tens 8 ones = _____

Look at the coins and write the number.

Thousands	Hundreds	Tens	Ones
			

The number is _____.

Thousands	Hundreds	Tens	Ones
			

The number is _____.

Thousands	Hundreds	Tens	Ones
			

The number is _____.

Sana has 10 coins of one thousand each.

$$1000 = 1000$$

Group of 10 thousands = 10,000



13, 475

1 = Ten thousand

3 = Thousands

4 = Hundreds

7 = Tens

5 = Ones

Look at the number and complete the table.

	Ten thousands	Thousands	Hundreds	Tens	Ones
14, 357					
21, 795					
45, 678					
19, 276					

Remember how many tens make a hundred?

$$10 \text{ tens} = 1 \text{ hundred}$$

How many thousands make a hundred thousand?

$$10 \text{ ten thousands} = 1 \text{ hundred thousand}$$

125, 386

1 = Hundred thousand

2 = Ten thousands

5 = Thousands

3 = Hundreds

8 = Tens

6 = Ones

Look at this number and fill in the blanks.

573, 942

Hundred thousands = _____

Ten thousands = _____

Thousands = _____

Hundreds = _____

Tens = _____

Ones = _____

We use place value to read and write numbers in words.

8, 931	Eight thousand, nine hundred and thirty one.
21, 573	Twenty one thousand, five hundred and seventy three.
138, 801	One hundred and thirty eight thousand, eight hundred and one.

Read the number and write the word.

10, 583 _____

4, 192 _____

120, 367 _____

908, 561 _____

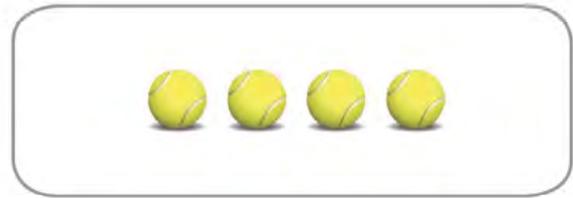
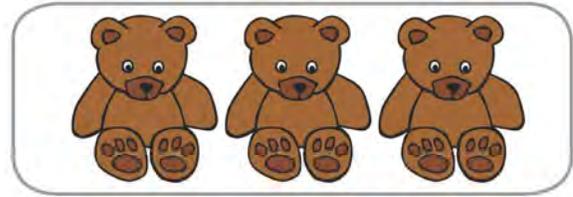
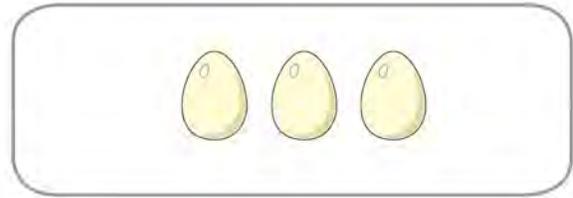
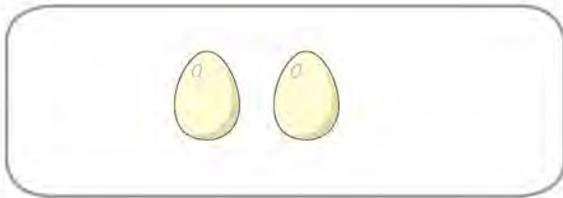
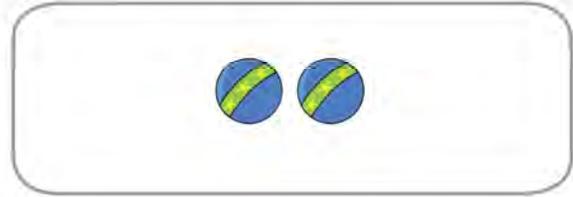
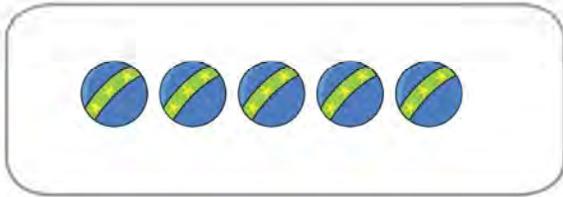
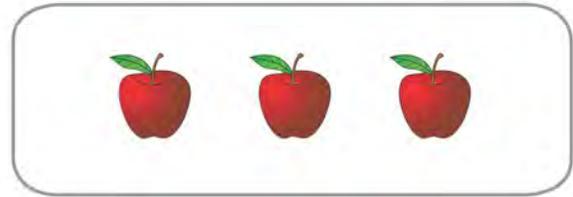
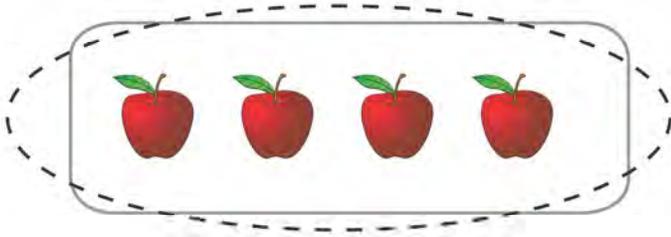
13, 741 _____

2, 642 _____

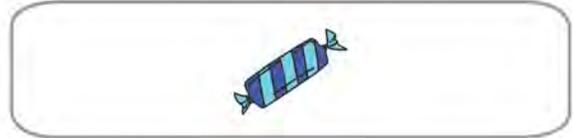
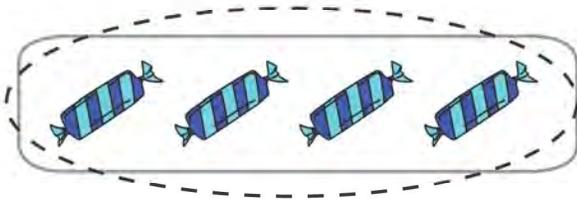


Comparing numbers

Encircle the box with the greater number of objects.



Which box has more sweets?



The box on the left has more sweets.

We can show this as:



greater than >
lesser than <

The > sign has an open side and a closed side.

open side |>| closed side

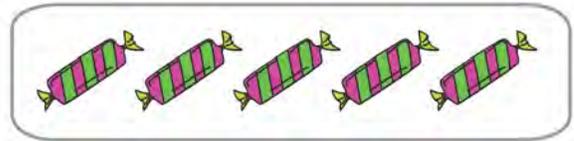
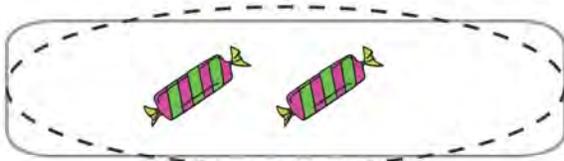
The open side faces the box that has more objects.

The closed side faces the box that has lesser objects.

Let's look at another example.

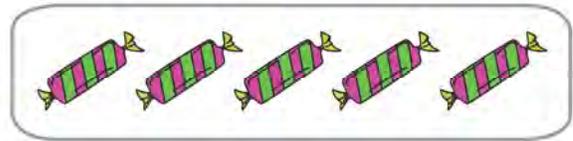
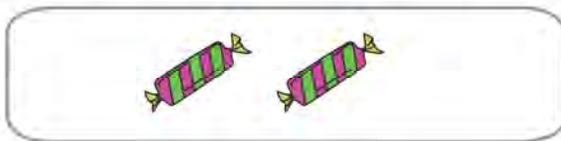


Which box has lesser sweets?



The box on the left has lesser sweets.

We will put the sign as:



closed side

Which box has greater number of stars?



Both boxes have 4 stars.

We use = sign
when both sides
have equal
objects

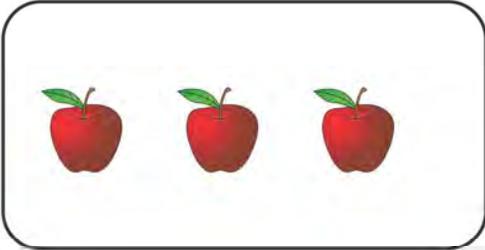


=

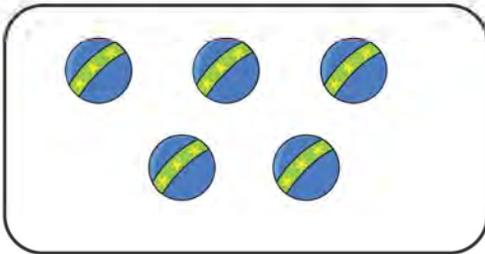
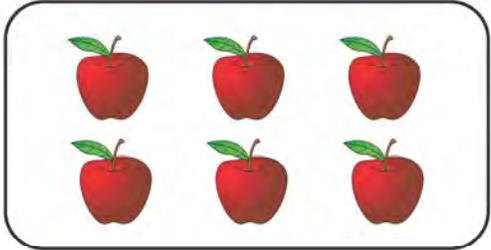


Let's look at a few examples.

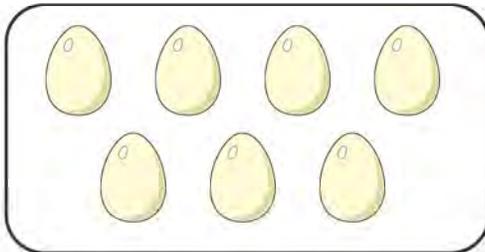
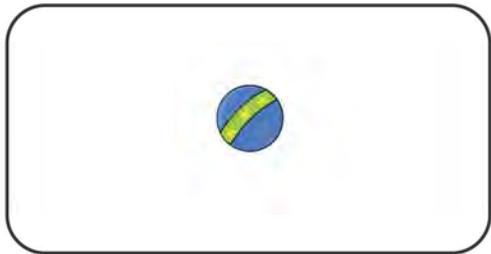
Remember:
open side | >
closed side | <
= equal



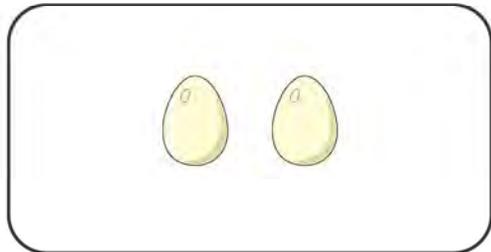
<



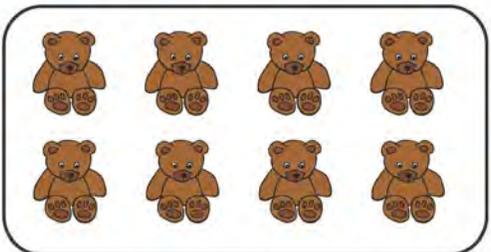
>



>



=



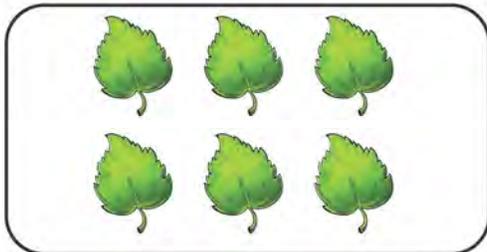
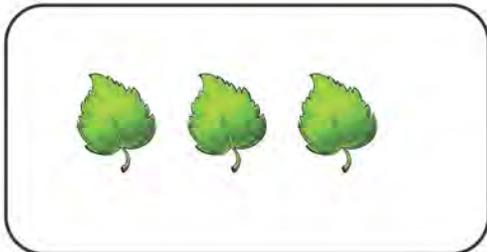
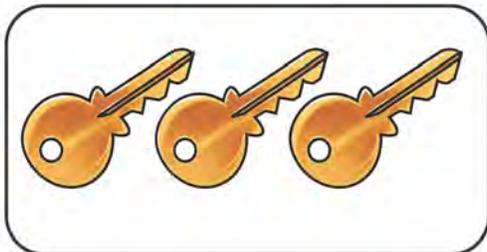
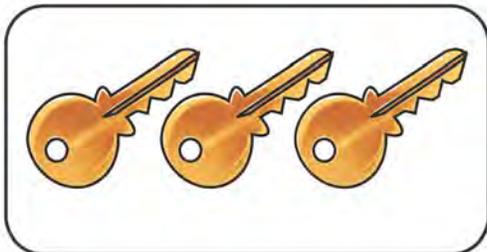
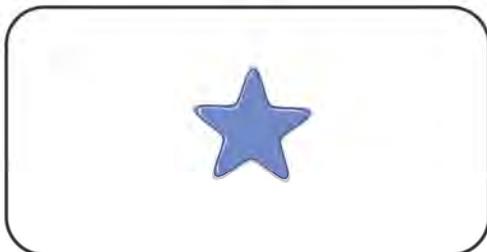
Compare the objects and write the correct sign in the middle.

> = <

Remember:
open side |>
closed side |<
= equal



>



Which is the bigger number?

$$\boxed{5 \quad 8}$$

8 is bigger than 5. We can show this as:

$$\begin{array}{ccc} 8 & > & 5 \\ & \downarrow & \\ & \text{open side} & \end{array}$$

The open side faces 8.

Which is the smaller number?

$$\boxed{3 \quad 7}$$

3 is smaller than 7. We can show this as:

$$\begin{array}{ccc} 3 & < & 7 \\ & \downarrow & \\ & \text{closed side} & \end{array}$$

The closed side faces 3.

Which is the smaller number?

$$\boxed{6 \quad 6}$$

There is **no** smaller number. Both numbers are **equal**.

$$6 = 6$$

We use = sign for equal numbers

Compare the numbers and write the correct sign in the middle.

> = <

$6 > 3$

$8 \square 9$

$1 \square 7$

$4 \square 4$

$3 \square 5$

$5 \square 6$

$7 \square 4$

$2 \square 6$

$8 \square 1$

$6 \square 6$

$8 \square 3$

$2 \square 0$

$5 \square 7$

$9 \square 2$

$3 \square 4$

$4 \square 1$

$7 \square 7$

$3 \square 1$

$5 \square 8$

$7 \square 3$

$3 \square 2$

Which is the bigger number?

$$15 \quad 28$$

28 is bigger than 15. We can show this as:

$$28 \quad > \quad 15$$

↓
open side

The open side faces 28.

Which is the smaller number?

$$13 \quad 47$$

13 is smaller than 47. We can show this as:

$$13 \quad < \quad 47$$

↓
closed side

The closed side faces 13.

Which is the smaller number?

$$56 \quad 56$$

There is **no** smaller number. Both numbers are **equal**.

$$56 = 56$$

We use = sign for equal numbers

Compare the numbers and write the correct sign in the middle.

> = <

$45 \square < 63$

$29 \square 13$

$51 \square 85$

$40 \square 40$

$75 \square 91$

$97 \square 15$

$24 \square 38$

$86 \square 59$

$43 \square 11$

$72 \square 23$

$45 \square 53$

$97 \square 97$

$98 \square 47$

$50 \square 62$

$79 \square 28$

$35 \square 52$

$63 \square 18$

$37 \square 18$

$42 \square 68$

$15 \square 30$

$21 \square 16$

Which is the bigger number?

328 > 160

328 is bigger than 160. We can show this as:

328 > 160
↓
open side

The open side faces 328.

Which is the smaller number?

430 < 597

430 is smaller than 597. We can show this as:

430 < 597
↓
closed side

The closed side faces 430.

Which is the smaller number?

250 = 250

There is **no** smaller number. Both numbers are **equal**.

250 = 250

We use = sign for equal numbers

Compare the numbers and write the correct sign in the middle.

> = <

$112 \square 680$

$550 \square 286$

$312 \square 317$

$583 \square 583$

$740 \square 728$

$394 \square 971$

$680 \square 870$

$800 \square 900$

$130 \square 481$

$597 \square 338$

$210 \square 210$

$483 \square 971$

$682 \square 890$

$302 \square 308$

$597 \square 524$

$378 \square 709$

$542 \square 410$

$260 \square 800$

$456 \square 456$

$632 \square 794$

$870 \square 835$

Ascending and Descending Order



Look at these numbers.

43 65 81 92

Which is the **smallest** number?

43 65 81 92

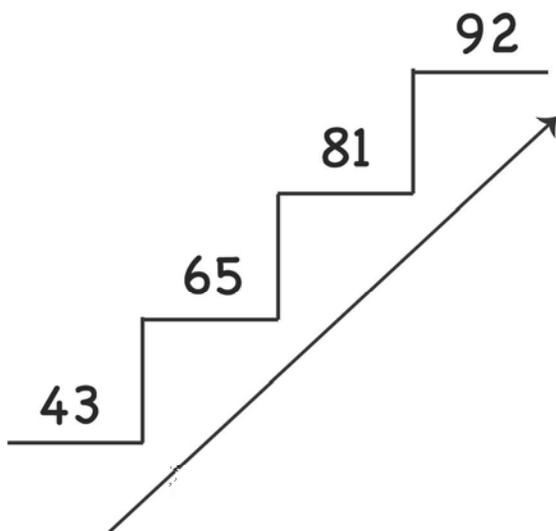
Which is the **biggest** number?

43 65 81 **92**

The smallest number is written **first**.

The biggest number is written **at the end**.

We say that the numbers have been arranged from the smallest to the biggest.



This is called
arranging in
ascending order

Arrange the numbers in ascending order.

72 27 83 35 27 35 72 83

93 48 65 28 _____

32 18 24 67 _____

46 89 36 22 _____

18 10 89 65 _____

150 330 482 650 _____

793 456 670 205 _____

382 504 312 480 _____

512 228 309 945 _____

650 124 435 560 _____

Look at these numbers.

92 78 35 24

Which is the **biggest** number?

92 78 35 24

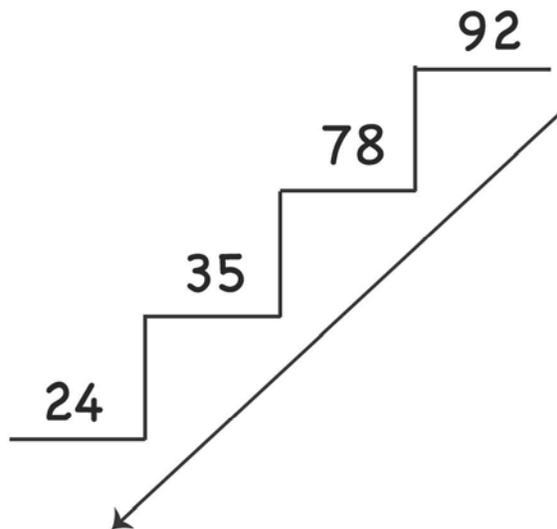
Which is the **smallest** number?

92 78 35 **24**

The biggest number is written **first**.

The smallest number is written **at the end**.

We say that the numbers have been arranged from the biggest to the smallest.



This is called
arranging in
descending order

Arrange the numbers in descending order.

83 20 75 49 20 49 75 83

65 44 28 35 _____

56 12 90 35 _____

42 18 67 12 _____

13 45 58 60 _____

200 315 680 798 _____

653 844 312 145 _____

703 950 265 140 _____

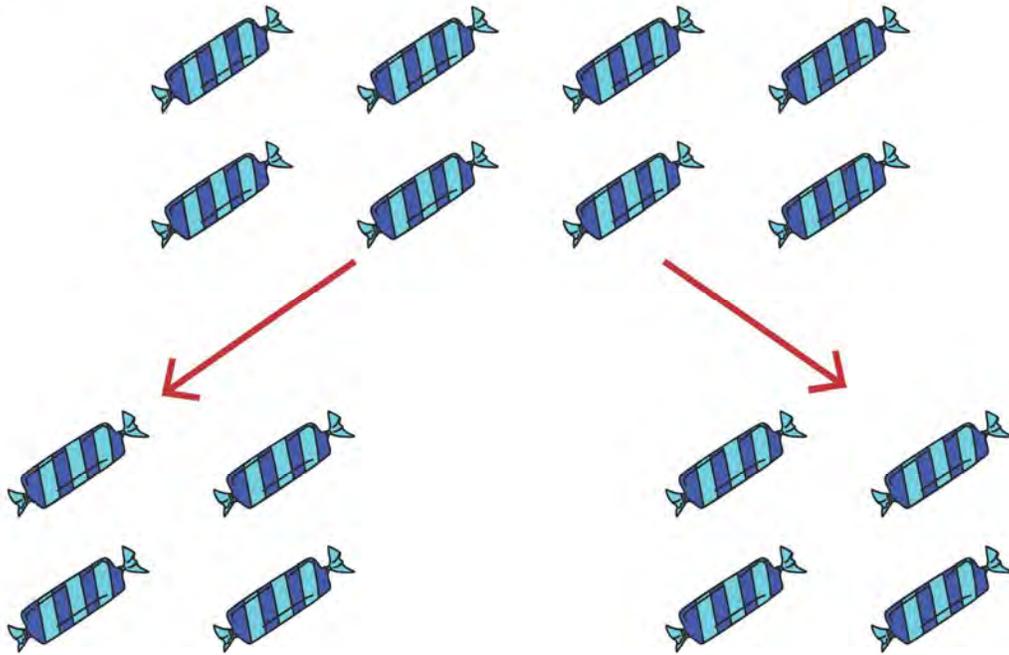
356 578 809 124 _____

794 813 124 685 _____

Even and odd numbers



Ali has 8 sweets. He shares them equally into 2 groups.

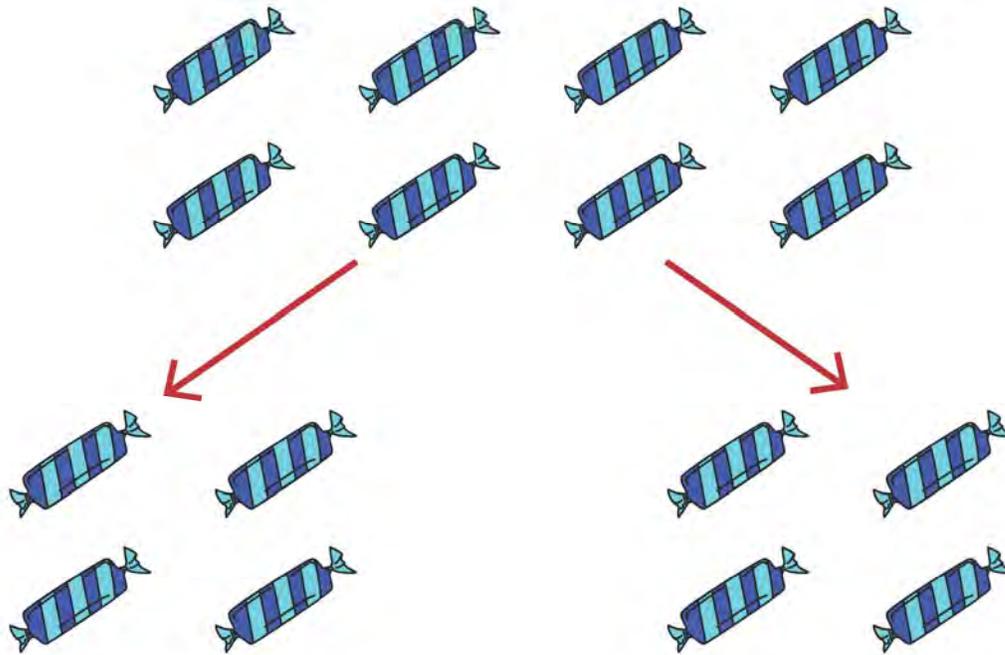


There are no sweets left. So, we say that 8 is an **even number**.

A number is **even** if that number of objects can be shared **equally** into 2 groups without any left over.

Even numbers have **2, 4, 6, 8** or **0** in the ones place.

Sana has 9 sweets. She shares them equally into 2 groups.



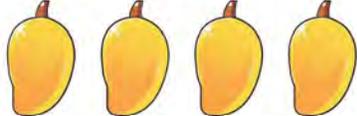
There is 1 sweet left over. So, we say that 9 is an **odd number**.



A number is **odd** if there is **1 left over** after sharing that number of objects equally into 2 groups.

Odd numbers have **1, 3, 5, 7 or 9** in the ones place.

Count the objects and tell whether they are even or odd.

	even	odd
	even	odd
	even	odd
	even	odd
	even	odd

Encircle the even numbers.

20 51 43 38 97
66 18 4 93 80

Encircle the odd numbers.

17 19 24 31 47
65 20 42 78 94



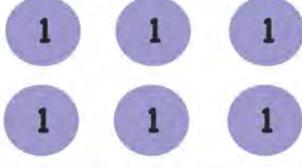
Addition

Find the sum of 23 and 16.

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 2 \quad 3 \\
 + 1 \quad 6 \\
 \hline
 \hline
 \end{array}$$

Step 1:
Add ones

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 2 \quad 3 \\
 + 1 \quad 6 \\
 \hline
 \quad 9 \\
 \hline
 \end{array}$$

Tens	Ones
	
	



Step 2:
Add tens

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 2 \quad 3 \\
 + 1 \quad 6 \\
 \hline
 3 \quad 9 \\
 \hline
 \end{array}$$

Tens	Ones
	
	
	

The sum of 23 and 16 is 39.

Add the following numbers.

	Tens	Ones
	6	1
+	1	3
<hr/>		
<hr/>		

	Tens	Ones
	8	3
+	1	5
<hr/>		
<hr/>		

	Tens	Ones
	2	4
+	3	5
<hr/>		
<hr/>		

	Tens	Ones
	6	2
+	3	4
<hr/>		
<hr/>		

	Tens	Ones
	5	4
+	1	4
<hr/>		
<hr/>		

	Tens	Ones
	5	1
+	3	3
<hr/>		
<hr/>		

	Tens	Ones
	7	3
+	1	4
<hr/>		
<hr/>		

	Tens	Ones
	5	1
+	2	2
<hr/>		
<hr/>		

	Tens	Ones
	2	4
+	3	3
<hr/>		
<hr/>		

	Tens	Ones
	5	3
+	2	1
<hr/>		
<hr/>		

	Tens	Ones
	3	8
+	2	1
<hr/>		
<hr/>		

	Tens	Ones
	7	1
+	2	0
<hr/>		
<hr/>		

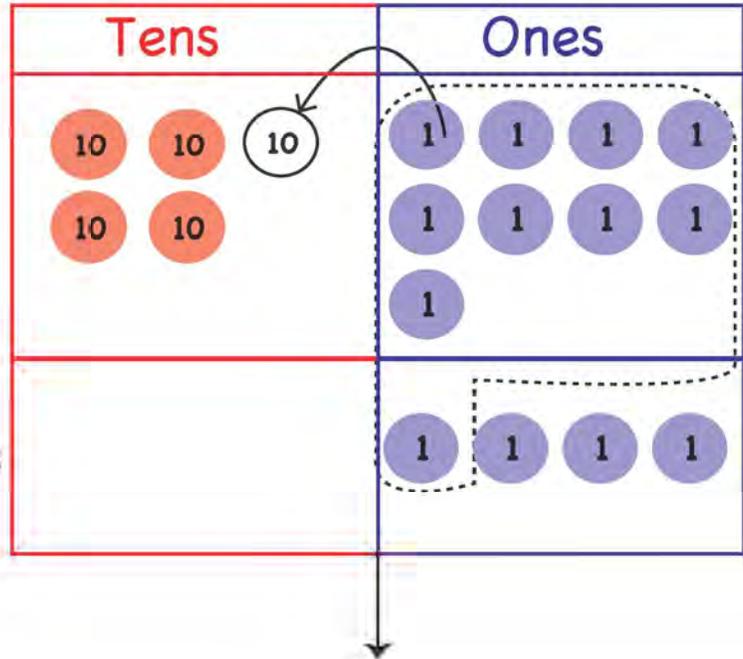
Find the sum of 49 and 4.

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 4 \quad 9 \\
 + \quad 4 \\
 \hline
 \hline
 \end{array}$$

Step 1:
Add ones

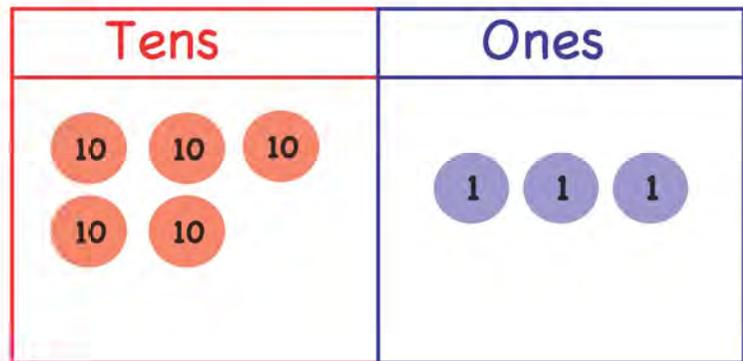
$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 {}^14 \quad 9 \\
 + \quad 4 \\
 \hline
 \quad 3 \\
 \hline
 \hline
 \end{array}$$

13 ones = 1 ten 3 ones
We carry 1 ten
to the tens side



Step 2:
Add tens

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 {}^14 \quad 9 \\
 + \quad 4 \\
 \hline
 5 \quad 3 \\
 \hline
 \hline
 \end{array}$$



Add the following numbers.

Tens	Ones
2	4
+	8
<hr/>	
<hr/>	

Tens	Ones
1	6
+	5
<hr/>	
<hr/>	

Tens	Ones
3	4
+	7
<hr/>	
<hr/>	

Tens	Ones
4	2
+	8
<hr/>	
<hr/>	

Tens	Ones
1	6
+	7
<hr/>	
<hr/>	

Tens	Ones
7	5
+	6
<hr/>	
<hr/>	

Tens	Ones
6	4
+	9
<hr/>	
<hr/>	

Tens	Ones
3	2
+	9
<hr/>	
<hr/>	

Tens	Ones
4	2
+	3
<hr/>	
<hr/>	

Tens	Ones
3	4
+	6
<hr/>	
<hr/>	

Tens	Ones
4	3
+	7
<hr/>	
<hr/>	

Tens	Ones
5	9
+	8
<hr/>	
<hr/>	

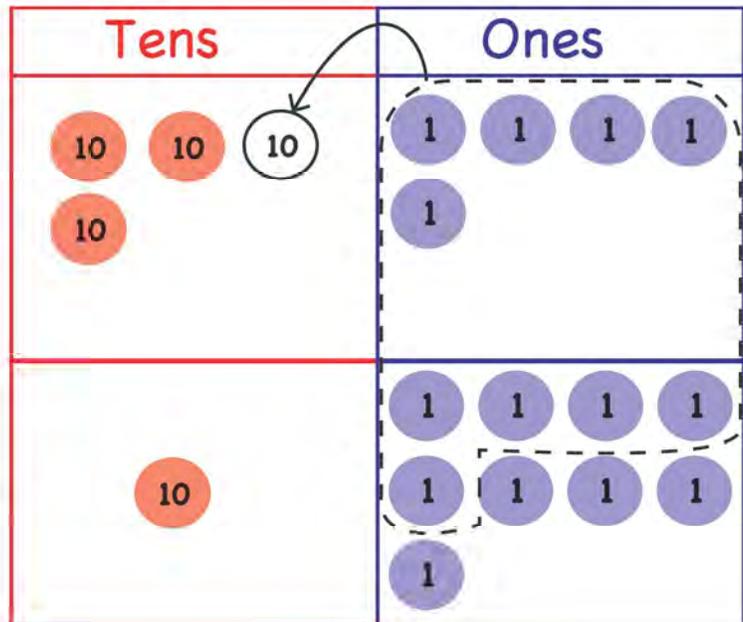
Find the sum of 35 and 19.

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 3 \quad 5 \\
 + 1 \quad 9 \\
 \hline
 \hline
 \end{array}$$

Step 1:
Add ones

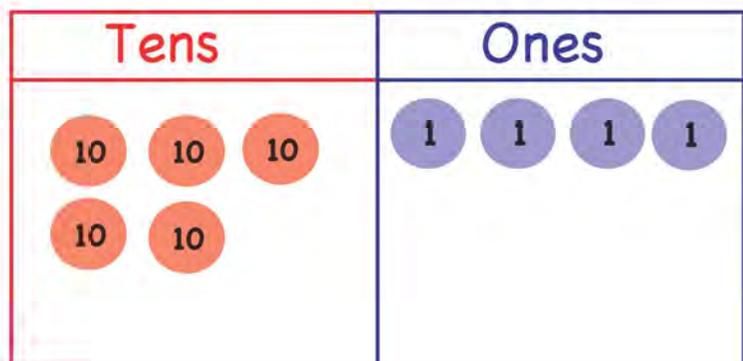
$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 1 \quad 3 \quad 5 \\
 + 1 \quad 9 \\
 \hline
 \quad \quad 4 \\
 \hline
 \end{array}$$

14 ones = 1 ten 4 ones
We carry 1 ten
to the tens side.



Step 2:
Add tens

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 1 \quad 3 \quad 5 \\
 + 1 \quad 9 \\
 \hline
 5 \quad 4 \\
 \hline
 \end{array}$$



Add the following numbers.

Tens	Ones
4	8
+ 1	2
<hr/>	
<hr/>	

Tens	Ones
5	9
+ 2	2
<hr/>	
<hr/>	

Tens	Ones
7	6
+ 1	6
<hr/>	
<hr/>	

Tens	Ones
3	5
+ 2	6
<hr/>	
<hr/>	

Tens	Ones
2	7
+ 1	8
<hr/>	
<hr/>	

Tens	Ones
3	2
+ 2	9
<hr/>	
<hr/>	

Tens	Ones
4	6
+ 2	7
<hr/>	
<hr/>	

Tens	Ones
6	9
+ 2	3
<hr/>	
<hr/>	

Tens	Ones
2	5
+ 1	9
<hr/>	
<hr/>	

Tens	Ones
5	6
+ 1	4
<hr/>	
<hr/>	

Tens	Ones
6	5
+ 1	8
<hr/>	
<hr/>	

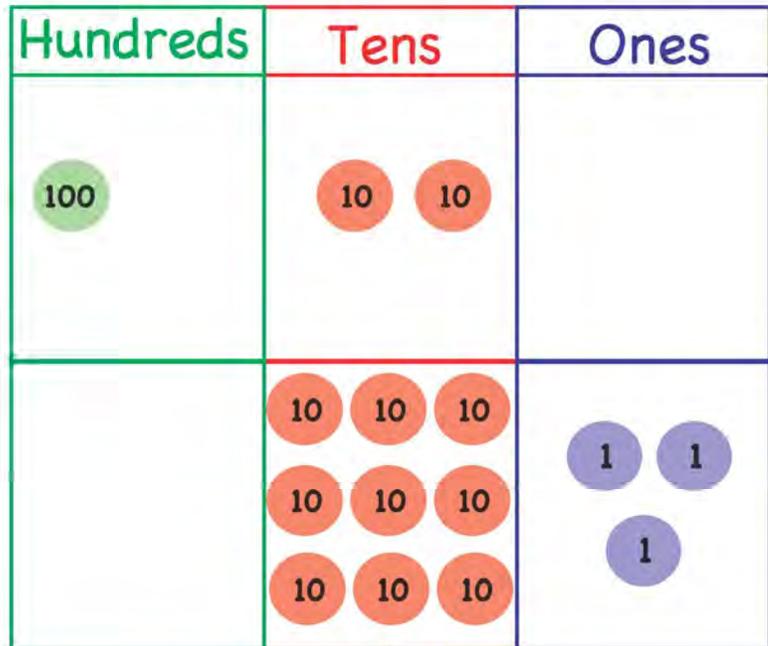
Tens	Ones
3	3
+ 1	8
<hr/>	
<hr/>	

Find the sum of 120 and 93.

Step 1:

Add ones

$$\begin{array}{r}
 \text{H} \quad \text{T} \quad \text{O} \\
 1 \quad 2 \quad 0 \\
 + \quad 9 \quad 3 \\
 \hline
 \quad \quad 3 \\
 \hline
 \end{array}$$

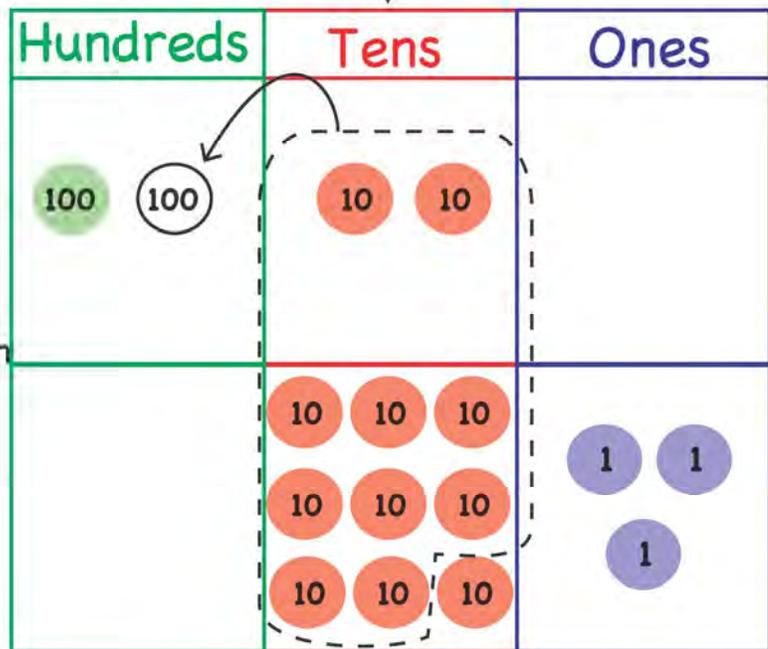


Step 2:

Add tens

$$\begin{array}{r}
 \text{H} \quad \text{T} \quad \text{O} \\
 {}^1 1 \quad 2 \quad 0 \\
 + \quad 9 \quad 3 \\
 \hline
 \quad 1 \quad 3 \\
 \hline
 \end{array}$$

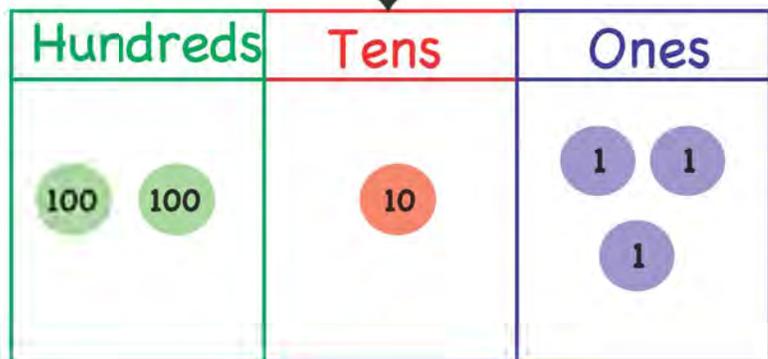
11 tens = 1 hundred 1 ten
We carry 1 hundred
to the hundreds side



Step 3:

Add hundreds

$$\begin{array}{r}
 \text{H} \quad \text{T} \quad \text{O} \\
 {}^1 1 \quad 2 \quad 0 \\
 + \quad 9 \quad 3 \\
 \hline
 2 \quad 1 \quad 3 \\
 \hline
 \end{array}$$



Add these numbers. Remember that H stands for hundreds, T for tens and O for ones.

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 2 \quad 4 \quad 5 \\ + \quad 7 \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 6 \quad 8 \quad 5 \\ + \quad 2 \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 3 \quad 6 \quad 4 \\ + \quad 4 \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 3 \quad 1 \quad 8 \\ + \quad 5 \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 4 \quad 0 \quad 9 \\ + \quad 9 \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 1 \quad 8 \\ + \quad 6 \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 6 \quad 1 \quad 8 \\ + \quad 5 \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 8 \quad 5 \quad 3 \\ + \quad 7 \quad 1 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 6 \quad 7 \quad 3 \\ + \quad 7 \quad 9 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 4 \quad 2 \quad 0 \\ + \quad 8 \quad 9 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 9 \quad 2 \quad 3 \\ + \quad 4 \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 4 \quad 0 \\ + \quad 6 \quad 8 \\ \hline \end{array}$$

Find the sum of 257 and 364.

Step 1:

Add ones

	H	T	O
	2	¹ 5	7
+	3	6	4
<hr/>			1
<hr/>			

$7 + 4 = 11$
11 ones = 1 ten 1 one
We carry 1 ten to the
tens side.

Step 2:

Add tens

	H	T	O
	¹ 2	¹ 5	7
+	3	6	4
<hr/>			2 1
<hr/>			

$5 + 6 + 1 = 12$
12 tens = 1 hundred 2 tens
We carry 1 hundred to the
hundreds side.

Step 3:

Add hundreds

	H	T	O
	¹ 2	¹ 5	7
+	3	6	4
<hr/>			6 2 1
<hr/>			

Add the following numbers.

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 3 \quad 7 \quad 5 \\ + 4 \quad 5 \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 4 \quad 9 \quad 3 \\ + 1 \quad 8 \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 2 \quad 8 \quad 5 \\ + 3 \quad 5 \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 8 \quad 6 \quad 2 \\ + 1 \quad 3 \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 2 \quad 9 \quad 5 \\ + 3 \quad 1 \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 6 \quad 9 \quad 5 \\ + 2 \quad 4 \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 3 \quad 6 \quad 1 \\ + 4 \quad 5 \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 3 \quad 8 \quad 1 \\ + 3 \quad 9 \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 4 \quad 3 \quad 5 \\ + 2 \quad 7 \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 6 \quad 9 \quad 7 \\ + 1 \quad 2 \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 3 \quad 6 \quad 4 \\ + 2 \quad 5 \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 3 \quad 9 \quad 8 \\ + 4 \quad 1 \quad 5 \\ \hline \end{array}$$

Find the sum of 1023 and 1564.

Step 1:

Add ones

	Th	H	T	O
	1	0	2	3
+	1	5	6	4
<hr/>				7
<hr/>				

Step 2:

Add tens

	Th	H	T	O
	1	0	2	3
+	1	5	6	4
<hr/>				8 7
<hr/>				

Step 3:

Add hundreds

	Th	H	T	O
	1	0	2	3
+	1	5	6	4
<hr/>				5 8 7
<hr/>				

Step 4:

Add thousands

	Th	H	T	O
	1	0	2	3
+	1	5	6	4
<hr/>				2 5 8 7
<hr/>				

Add the following numbers. We can write Th for thousands, H for hundreds, T for tens, O for ones.

	Th	H	T	O
	1	2	8	3
+	2	5	1	3
<hr/>				

	Th	H	T	O
	5	4	7	1
+	4	3	2	5
<hr/>				

	Th	H	T	O
	3	0	5	7
+	2	8	3	1
<hr/>				

	Th	H	T	O
	8	6	9	0
+	1	3	0	7
<hr/>				

	Th	H	T	O
	5	8	4	6
+	1	1	3	2
<hr/>				

	Th	H	T	O
	4	3	1	0
+	3	6	8	5
<hr/>				

	Th	H	T	O
	4	5	3	1
+	2	3	4	9
<hr/>				

	Th	H	T	O
	6	1	5	4
+	2	4	3	0
<hr/>				

	Th	H	T	O
	3	1	9	3
+	1	5	6	4
<hr/>				

	Th	H	T	O
	2	7	4	6
+	1	5	6	4
<hr/>				

Find the sum of 1253 and 4936.

Step 1:

Add ones

	Th	H	T	O
	1	2	5	3
+	4	9	3	6
				9

Step 2:

Add tens

	Th	H	T	O
	1	2	5	3
+	4	9	3	6
			8	9

Step 3:

Add hundreds

	Th	H	T	O
	¹ 1	2	5	3
+	4	9	3	6
		1	8	9

11 hundreds = 1 thousand
1 hundred
We will carry 1 thousand to
the thousands side.

Step 4:

Add thousands

	Th	H	T	O
	¹ 1	2	5	3
+	4	9	3	6
	6	1	8	9

Add the following numbers. Remember that Th stands for thousands, H for hundreds, T for tens, O for ones.

	Th	H	T	O
	3	8	2	5
+	2	5	6	4
<hr/>				
<hr/>				

	Th	H	T	O
	5	7	3	1
+	1	5	6	4
<hr/>				
<hr/>				

	Th	H	T	O
	2	4	6	9
+	5	3	2	7
<hr/>				
<hr/>				

	Th	H	T	O
	3	8	5	2
+	1	3	4	4
<hr/>				
<hr/>				

	Th	H	T	O
	2	8	7	6
+	4	3	5	2
<hr/>				
<hr/>				

	Th	H	T	O
	5	8	3	1
+	2	7	0	4
<hr/>				
<hr/>				

	Th	H	T	O
	7	6	0	3
+	1	2	6	7
<hr/>				
<hr/>				

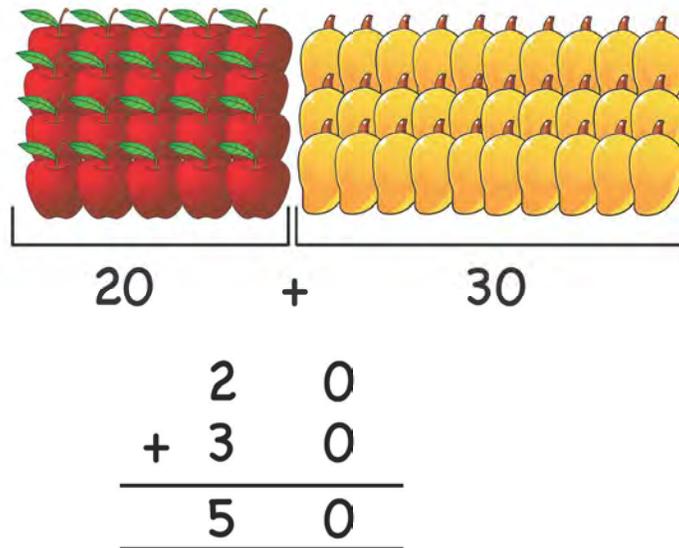
	Th	H	T	O
	2	9	6	5
+	3	7	5	1
<hr/>				
<hr/>				

	Th	H	T	O
	4	3	1	5
+	1	5	6	4
<hr/>				
<hr/>				

	Th	H	T	O
	1	9	7	3
+	2	5	2	4
<hr/>				
<hr/>				

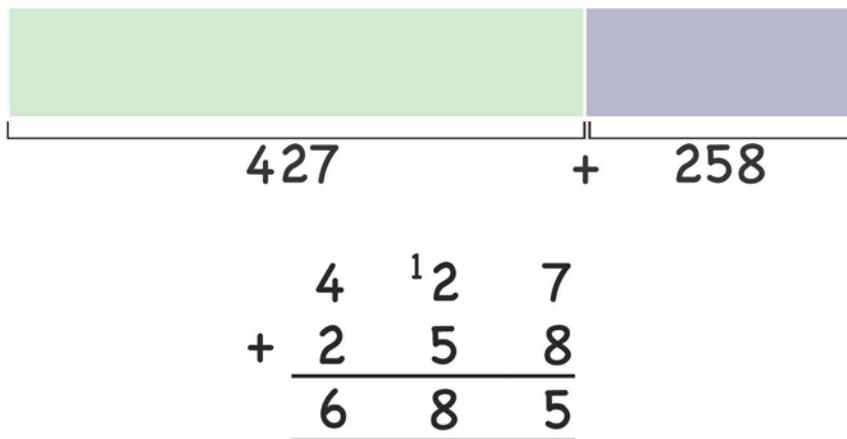
Addition problems in daily life

There are 20 apples and 30 oranges on Ahmed's cart. How many fruits are there altogether?



There are 50 fruits altogether.

Sana had 427 beads. Her mother gave her another 258 beads. How many beads did Sana have altogether?



Sana had 685 beads altogether.

- 1 There are 29 boys and 13 girls in Class 3. How many students are there altogether?



- 2 Ahmed got 180 marks in his Math test and 215 marks in his English test. How many marks did he get altogether?

- 3 Pakistan scored 320 runs in a cricket match. India scored 285 runs. How many total runs were scored in the match?

- 4 Bashir sold 68 oranges on Monday and 103 oranges on Tuesday. How many tomatoes did he sell altogether?



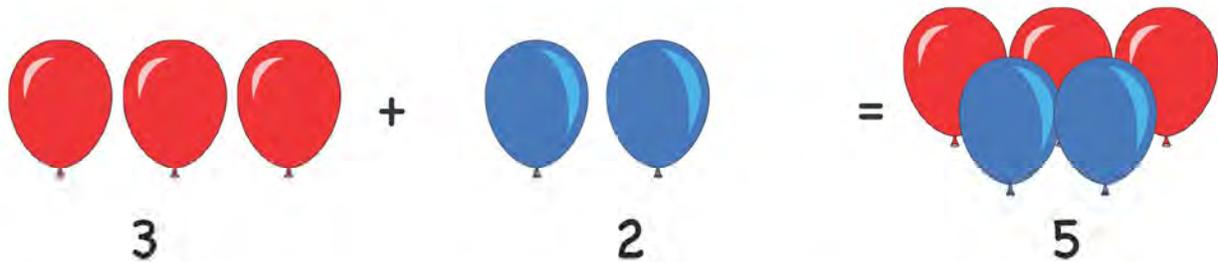
- 5 Ali got Rs. 132 on Eid. Hamza got Rs. 95 on Eid. How much money did both Ali and Hamza get on Eid?

More about addition

Ali bought 3 red balloons and 2 blue balloons.

How many balloons does Ali have?

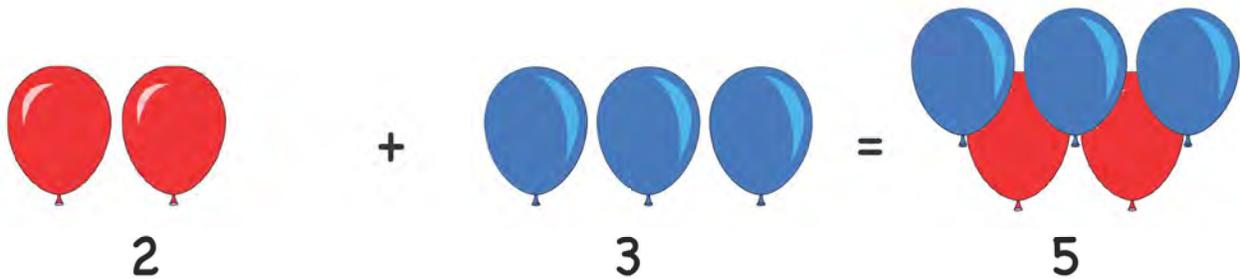
Ali has 5 balloons.



Sana bought 2 red balloons and 3 blue balloons.

How many balloons does Sana have?

Sana has 5 balloons.



$$3 + 2 = 5$$

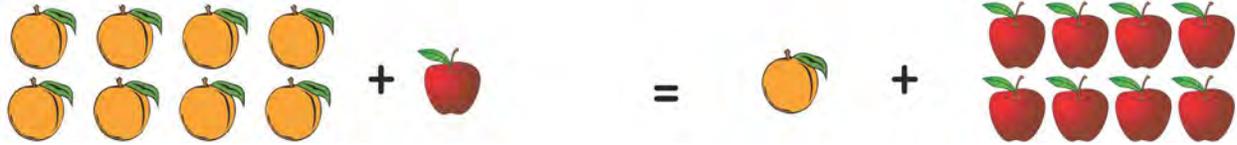
$$2 + 3 = 5$$

$$3 + 2 = 2 + 3$$

We can write $3 + 2$ or $2 + 3$.

The answer remains 5.

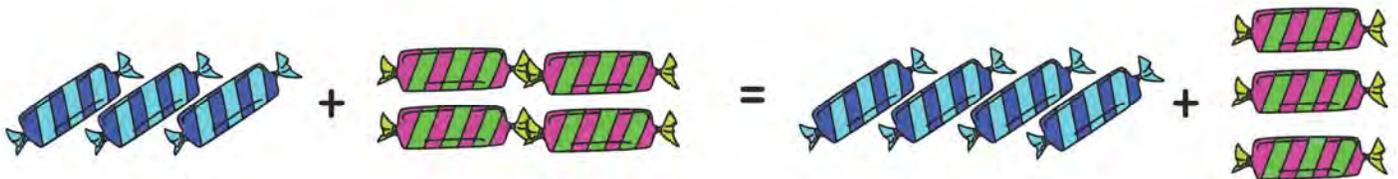
How many fruits are there?



8 oranges and 1 apple
make 9.

1 orange and 8 apples
make 9.

How many sweets are there?



3 blue sweets and 4 pink
sweets make 7.

4 blue sweets and 3
pink sweets make 7.

How many balls are there?



2 pink balls and 4 blue
balls make 6.

4 pink balls and 2 blue
balls make 6.

Fill in the blanks with the correct answer.

$$2 + 5 = \underline{\quad} \quad \text{and} \quad 5 + 2 = \underline{\quad}$$

$$6 + 3 = \underline{\quad} \quad \text{and} \quad 3 + 6 = \underline{\quad}$$

$$8 + 1 = \underline{\quad} \quad \text{and} \quad 1 + 8 = \underline{\quad}$$

$$7 + 9 = \underline{\quad} \quad \text{and} \quad 9 + 7 = \underline{\quad}$$

Fill in the blanks with the correct answer.

$$9 + 1 = \underline{\quad} + 9$$

$$8 + 3 = 3 + \underline{\quad}$$

$$4 + 2 = 2 + \underline{\quad}$$

$$5 + 7 = \underline{\quad} + 5$$

$$3 + 7 = \underline{\quad} + 3$$

$$6 + 5 = \underline{\quad} + 6$$

Mental addition

Find the sum of 12 and 26.

$$12 + 26 = ?$$

$$12 = 10 + 2$$

$$26 = 20 + 6$$

Step 1 Add the tens
 $10 + 20 = 30$

Step 2 Add the ones
 $2 + 6 = 8$

Step 3 Add both answers
 $30 + 8 = 38$

$$12 + 26 = 38$$

Do mental math and add the following numbers.

$15 + 10 =$

$18 + 11 =$

$26 + 13 =$

$9 + 10 =$

$32 + 12 =$

$30 + 16 =$

$17 + 21 =$

$24 + 5 =$



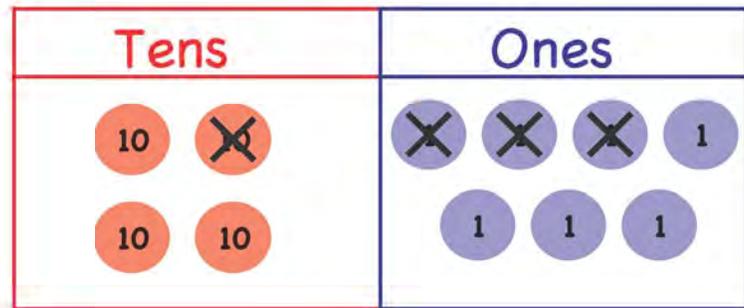
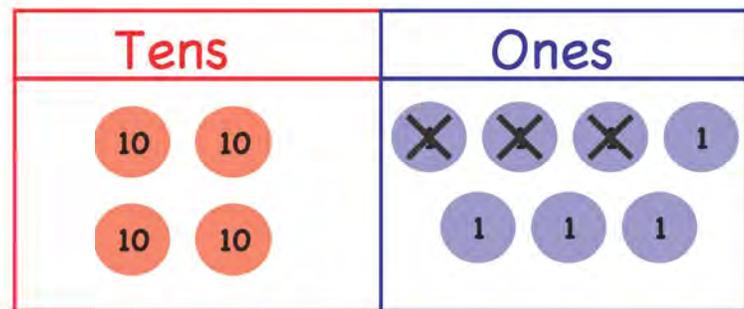
Subtraction

Find the difference between 47 and 13.

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 4 \quad 7 \\
 - 1 \quad 3 \\
 \hline
 \hline
 \end{array}$$

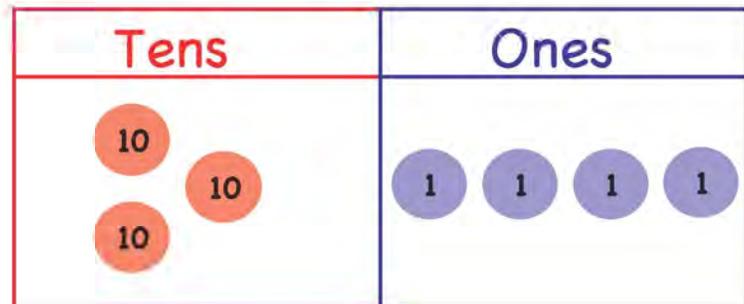
Step 1:
Subtract ones.

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 4 \quad 7 \\
 - 1 \quad 3 \\
 \hline
 \quad 4 \\
 \hline
 \end{array}$$



Step 2:
Subtract tens.

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 4 \quad 7 \\
 - 1 \quad 3 \\
 \hline
 3 \quad 4 \\
 \hline
 \end{array}$$



Subtract the following numbers.

Tens	Ones
4	8
- 2	6
<hr/>	
<hr/>	

Tens	Ones
6	7
- 1	3
<hr/>	
<hr/>	

Tens	Ones
5	9
- 2	3
<hr/>	
<hr/>	

Tens	Ones
5	4
- 3	1
<hr/>	
<hr/>	

Tens	Ones
3	6
- 2	4
<hr/>	
<hr/>	

Tens	Ones
8	5
- 6	1
<hr/>	
<hr/>	

Tens	Ones
6	8
- 2	7
<hr/>	
<hr/>	

Tens	Ones
4	8
- 3	2
<hr/>	
<hr/>	

Tens	Ones
7	9
- 5	2
<hr/>	
<hr/>	

Tens	Ones
6	5
- 1	3
<hr/>	
<hr/>	

Tens	Ones
5	6
- 3	4
<hr/>	
<hr/>	

Tens	Ones
8	3
- 4	2
<hr/>	
<hr/>	

Find the difference between 43 and 6.

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 4 \quad 3 \\
 - \quad 6 \\
 \hline
 \hline
 \end{array}$$

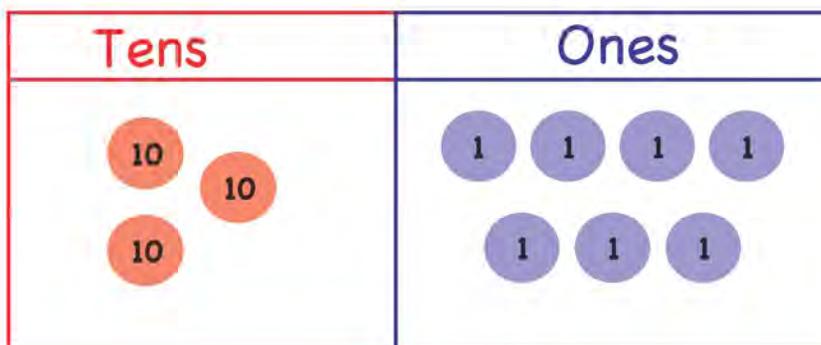
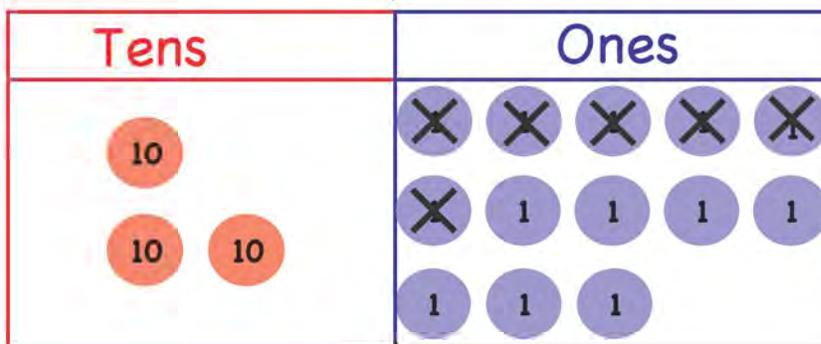
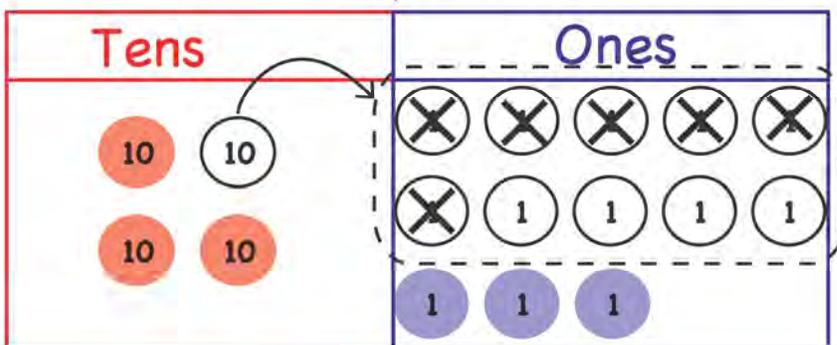
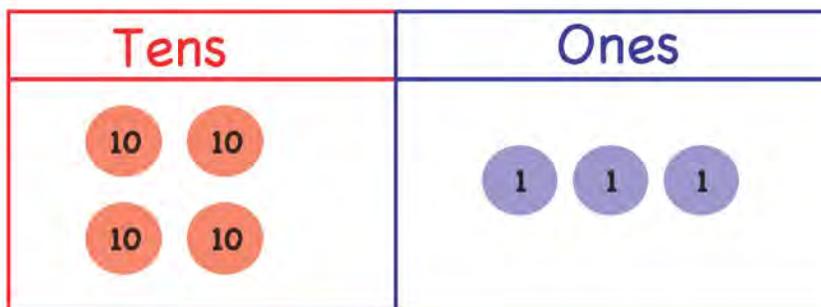
Step 1:
Subtract ones

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 \overset{3}{\cancel{4}} \quad \overset{1}{3} \\
 - \quad 6 \\
 \hline
 7 \\
 \hline
 \end{array}$$

We cannot subtract 6 from 3. We will borrow 1 ten from the tens side.

Step 2:
Subtract tens

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 \overset{3}{\cancel{4}} \quad \overset{1}{3} \\
 - \quad 6 \\
 \hline
 3 \quad 7 \\
 \hline
 \end{array}$$



Subtract the following numbers.

Tens	Ones
3	2
-	7
<hr/>	
<hr/>	

Tens	Ones
4	1
-	8
<hr/>	
<hr/>	

Tens	Ones
6	4
-	5
<hr/>	
<hr/>	

Tens	Ones
1	4
-	8
<hr/>	
<hr/>	

Tens	Ones
5	4
-	7
<hr/>	
<hr/>	

Tens	Ones
7	3
-	8
<hr/>	
<hr/>	

Tens	Ones
6	2
-	8
<hr/>	
<hr/>	

Tens	Ones
8	5
-	7
<hr/>	
<hr/>	

Tens	Ones
1	3
-	5
<hr/>	
<hr/>	

Tens	Ones
2	2
-	6
<hr/>	
<hr/>	

Tens	Ones
3	1
-	8
<hr/>	
<hr/>	

Tens	Ones
4	5
-	6
<hr/>	
<hr/>	

Find the difference between 75 and 28.

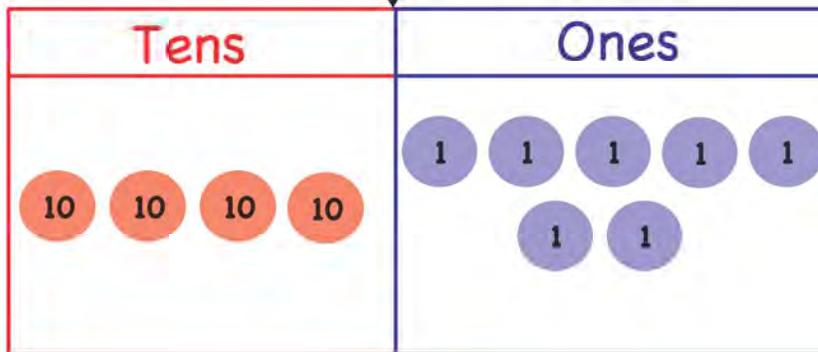
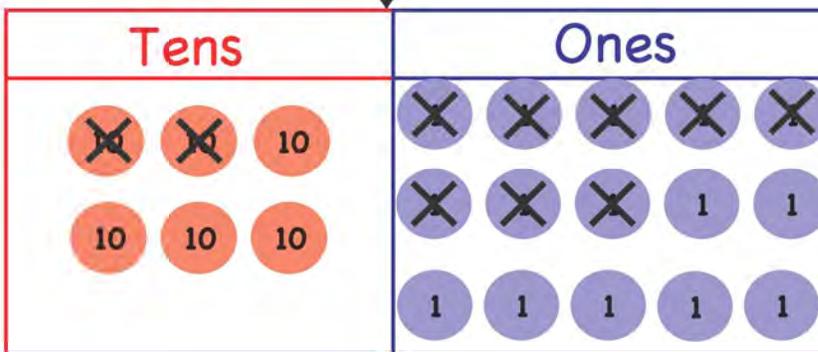
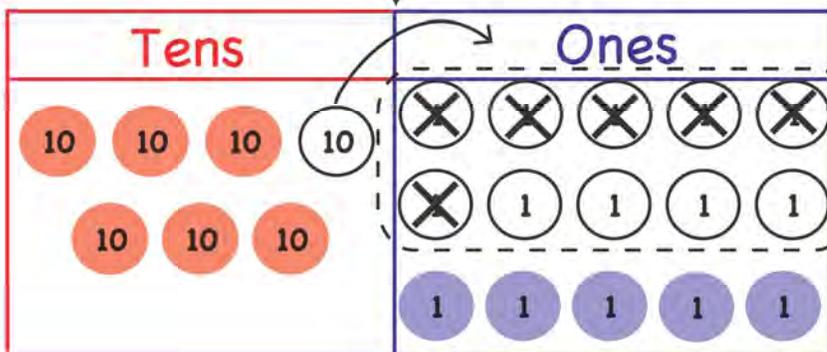
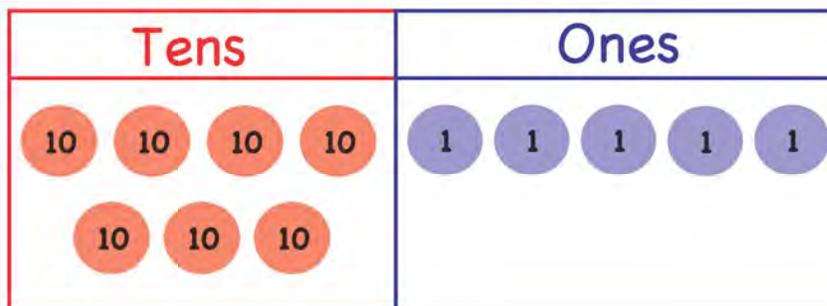
Tens	Ones
7	5
-	2
8	8

Step 1:
Subtract ones.

Tens	Ones
7	5
-	2
8	8
7	

Step 2:
Subtract tens.

Tens	Ones
7	¹ 5
-	2
8	8
4	7



Subtract the following numbers.

Tens	Ones
5	7
- 2	9
<hr/>	
<hr/>	

Tens	Ones
4	3
- 2	6
<hr/>	
<hr/>	

Tens	Ones
8	1
- 5	3
<hr/>	
<hr/>	

Tens	Ones
6	2
- 2	7
<hr/>	
<hr/>	

Tens	Ones
3	5
- 1	7
<hr/>	
<hr/>	

Tens	Ones
7	2
- 4	8
<hr/>	
<hr/>	

Tens	Ones
9	1
- 4	3
<hr/>	
<hr/>	

Tens	Ones
6	8
- 1	9
<hr/>	
<hr/>	

Tens	Ones
6	2
- 3	7
<hr/>	
<hr/>	

Tens	Ones
8	4
- 2	7
<hr/>	
<hr/>	

Tens	Ones
7	1
- 4	5
<hr/>	
<hr/>	

Tens	Ones
9	3
- 2	6
<hr/>	
<hr/>	

Find the difference between 285 and 162.

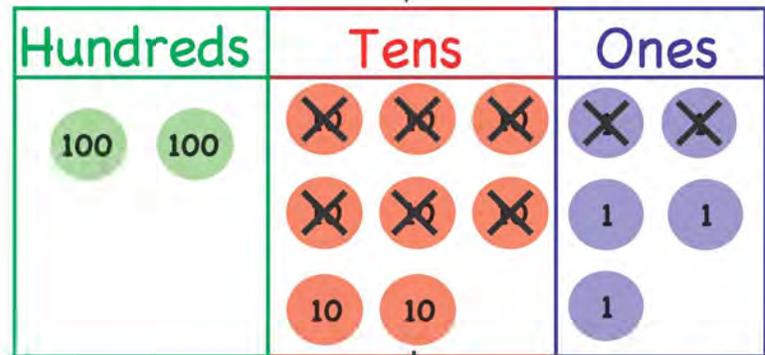
Step 1:
Subtract ones.

$$\begin{array}{r}
 \text{H} \quad \text{T} \quad \text{O} \\
 2 \quad 8 \quad 5 \\
 - 1 \quad 6 \quad 2 \\
 \hline
 \quad \quad 3 \\
 \hline
 \end{array}$$



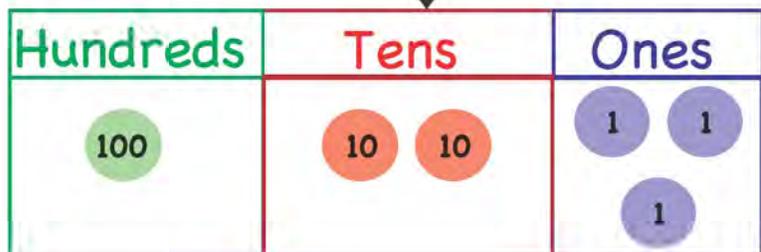
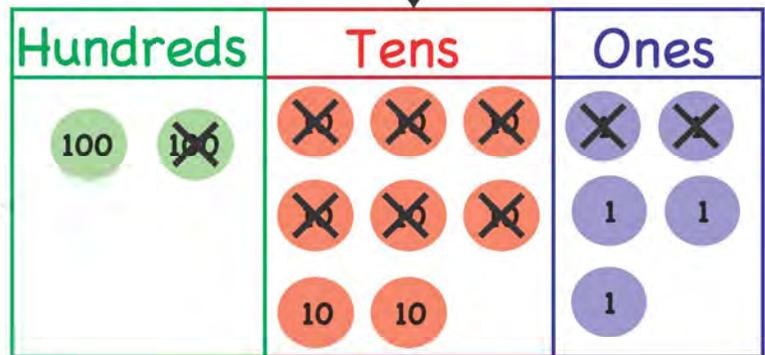
Step 2:
Subtract tens.

$$\begin{array}{r}
 \text{H} \quad \text{T} \quad \text{O} \\
 2 \quad 8 \quad 5 \\
 - 1 \quad 6 \quad 2 \\
 \hline
 \quad 2 \quad 3 \\
 \hline
 \end{array}$$



Step 3:
Subtract hundreds.

$$\begin{array}{r}
 \text{H} \quad \text{T} \quad \text{O} \\
 2 \quad 8 \quad 5 \\
 - 1 \quad 6 \quad 2 \\
 \hline
 1 \quad 2 \quad 3 \\
 \hline
 \end{array}$$



Subtract the following numbers. Remember that H stands for hundreds, T for tens and O for ones.

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 6 \quad 4 \quad 5 \\ - 3 \quad 2 \quad 1 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 8 \quad 3 \quad 4 \\ - 5 \quad 1 \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 4 \quad 8 \quad 7 \\ - 1 \quad 6 \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 7 \quad 5 \quad 4 \\ - 3 \quad 2 \quad 1 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 6 \quad 3 \\ - 2 \quad 1 \quad 0 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 9 \quad 4 \quad 7 \\ - 5 \quad 3 \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 8 \quad 4 \quad 9 \\ - 4 \quad 1 \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 3 \quad 6 \quad 5 \\ - 1 \quad 4 \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 7 \quad 8 \quad 4 \\ - 2 \quad 5 \quad 1 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 6 \quad 9 \\ - 2 \quad 4 \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 3 \quad 8 \quad 5 \\ - 1 \quad 5 \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 6 \quad 9 \quad 5 \\ - 2 \quad 7 \quad 3 \\ \hline \end{array}$$

Find the difference between 292 and 65.

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 2 \quad 9 \quad 2 \\ - \quad \quad 6 \quad 5 \\ \hline \quad \quad \quad 7 \\ \hline \end{array}$$

Step 1:
Subtract ones.

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 2 \quad \overset{3}{\cancel{9}} \quad \overset{1}{2} \\ - \quad \quad 6 \quad 5 \\ \hline \quad \quad \quad 7 \\ \hline \end{array}$$

We cannot subtract 5 from 2. We will borrow 1 ten from the tens side.

Step 2:
Subtract tens.

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 2 \quad \overset{8}{\cancel{9}} \quad \overset{1}{2} \\ - \quad \quad 6 \quad 5 \\ \hline \quad \quad 2 \quad 7 \\ \hline \end{array}$$

We are left with 8 tens, so we will subtract 6 from 8.

Step 3:
Subtract hundreds.

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 2 \quad \overset{8}{\cancel{9}} \quad \overset{1}{2} \\ - \quad \quad 6 \quad 5 \\ \hline 2 \quad 2 \quad 7 \\ \hline \end{array}$$

Subtract the following numbers. Remember that H stands for hundreds, T for tens and O for ones.

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 1 \quad 6 \quad 3 \\ - \quad \quad 8 \quad 1 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 1 \quad 8 \quad 5 \\ - \quad \quad 4 \quad 7 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 3 \quad 9 \quad 1 \\ - \quad \quad 5 \quad 6 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 1 \quad 7 \\ - \quad \quad 8 \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 6 \quad 5 \quad 3 \\ - \quad \quad 2 \quad 8 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 8 \quad 3 \quad 1 \\ - \quad \quad 7 \quad 8 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 7 \quad 6 \quad 5 \\ - \quad \quad 8 \quad 6 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 3 \quad 4 \quad 0 \\ - \quad \quad 5 \quad 9 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 7 \quad 8 \\ - \quad \quad 9 \quad 3 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 4 \quad 6 \quad 1 \\ - \quad \quad 3 \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 8 \quad 3 \quad 6 \\ - \quad \quad 1 \quad 7 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 0 \quad 1 \\ - \quad \quad 1 \quad 4 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 3 \quad 2 \\ - \quad \quad 1 \quad 4 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 6 \quad 5 \quad 0 \\ - \quad \quad 6 \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 4 \quad 0 \quad 9 \\ - \quad \quad 6 \quad 5 \\ \hline \\ \hline \end{array}$$

Find the difference between 312 and 158.

Step 1:

Subtract ones

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{U} \\ 3 \quad 0 \quad 2 \\ - 1 \quad 5 \quad 8 \\ \hline \quad \quad 4 \end{array}$$

We cannot subtract 8 from 2. We will borrow 1 ten from the tens side.

Step 2:

Subtract tens

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{U} \\ 2 \quad 0 \quad 2 \\ - 1 \quad 5 \quad 8 \\ \hline \quad 5 \quad 4 \end{array}$$

We are left with 0 tens. We will borrow 1 hundred from the hundreds side.

Step 3:

Subtract hundreds

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{U} \\ 2 \quad 0 \quad 2 \\ - 1 \quad 5 \quad 8 \\ \hline 1 \quad 5 \quad 4 \end{array}$$

We are left with 2 hundreds so we will subtract 1 from 2

Subtract the following numbers.

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 3 \quad 8 \quad 1 \\ - 1 \quad 9 \quad 7 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 4 \quad 6 \quad 4 \\ - 3 \quad 5 \quad 2 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 3 \quad 1 \quad 7 \\ - 1 \quad 6 \quad 3 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 4 \quad 7 \quad 8 \\ - 2 \quad 9 \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 6 \quad 3 \\ - 1 \quad 8 \quad 6 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 3 \quad 0 \quad 7 \\ - 1 \quad 5 \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 8 \quad 0 \quad 5 \\ - 2 \quad 3 \quad 4 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 4 \quad 3 \quad 7 \\ - 1 \quad 6 \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 8 \quad 6 \quad 5 \\ - 4 \quad 8 \quad 3 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 4 \quad 0 \quad 0 \\ - 2 \quad 6 \quad 4 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 2 \quad 1 \quad 5 \\ - 1 \quad 0 \quad 8 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 3 \quad 0 \quad 9 \\ - 5 \quad 6 \quad 0 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 7 \quad 8 \quad 0 \\ - 6 \quad 6 \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 1 \quad 5 \\ - 6 \quad 6 \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \\ 6 \quad 3 \quad 0 \\ - 6 \quad 6 \quad 5 \\ \hline \\ \hline \end{array}$$

Find the difference between 3784 and 2362.

Step 1:

Subtract ones.

$$\begin{array}{rcccc} & \text{Th} & \text{H} & \text{T} & \text{O} \\ & 3 & 7 & 8 & 4 \\ - & 2 & 3 & 6 & 2 \\ \hline & & & & 2 \\ \hline \end{array}$$

Step 2:

Subtract tens.

$$\begin{array}{rcccc} & \text{Th} & \text{H} & \text{T} & \text{O} \\ & 3 & 7 & 8 & 4 \\ - & 2 & 3 & 6 & 2 \\ \hline & & & 2 & 2 \\ \hline \end{array}$$

Step 3:

Subtract hundreds.

$$\begin{array}{rcccc} & \text{Th} & \text{H} & \text{T} & \text{O} \\ & 3 & 7 & 8 & 4 \\ - & 2 & 3 & 6 & 2 \\ \hline & & 4 & 2 & 2 \\ \hline \end{array}$$

Step 4:

Subtract thousands.

$$\begin{array}{rcccc} & \text{Th} & \text{H} & \text{T} & \text{O} \\ & 3 & 7 & 8 & 4 \\ - & 2 & 3 & 6 & 2 \\ \hline & 1 & 4 & 2 & 2 \\ \hline \end{array}$$

Subtract the following numbers.

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 3 \quad 2 \quad 4 \\ - 3 \quad 1 \quad 1 \quad 1 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 9 \quad 4 \quad 4 \\ - 4 \quad 8 \quad 1 \quad 0 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 2 \quad 3 \quad 5 \quad 3 \\ - 1 \quad 1 \quad 4 \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 3 \quad 6 \quad 8 \quad 7 \\ - 2 \quad 1 \quad 5 \quad 6 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 3 \quad 6 \quad 4 \quad 7 \\ - 1 \quad 2 \quad 2 \quad 0 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 9 \quad 2 \quad 8 \quad 8 \\ - 2 \quad 1 \quad 3 \quad 1 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 4 \quad 7 \quad 2 \\ - 2 \quad 1 \quad 6 \quad 1 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 2 \quad 5 \quad 8 \quad 4 \\ - 1 \quad 3 \quad 1 \quad 0 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 4 \quad 2 \quad 7 \quad 5 \\ - 1 \quad 1 \quad 4 \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 9 \quad 4 \quad 3 \\ - 2 \quad 3 \quad 2 \quad 0 \\ \hline \end{array}$$

Find the difference between 4381 and 1658.

Step 1:

Subtract ones.

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 4 \quad 3 \quad \cancel{8}^1 \quad 1 \\ - 1 \quad 6 \quad 5 \quad 8 \\ \hline \phantom{\cancel{8}^1} \quad 3 \\ \hline \end{array}$$

We cannot subtract 8 from 1. We will borrow 1 ten from the tens side.

Step 2:

Subtract tens.

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 4 \quad 3 \quad \cancel{8}^1 \quad 1 \\ - 1 \quad 6 \quad 5 \quad 8 \\ \hline \quad 2 \quad 3 \\ \hline \end{array}$$

We are left with 7 tens. We will subtract 5 from 7.

Step 3:

Subtract hundreds.

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ \cancel{3}^3 \quad \cancel{1}^1 \quad 3 \quad \cancel{8}^1 \quad 1 \\ - 1 \quad 6 \quad 5 \quad 8 \\ \hline \phantom{\cancel{3}^3} \quad 7 \quad 2 \quad 3 \\ \hline \end{array}$$

We cannot subtract 6 hundreds from 3 hundreds. We will borrow 1 thousand.

Step 4:

Subtract thousands.

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ \cancel{3}^3 \quad \cancel{1}^1 \quad 3 \quad \cancel{8}^1 \quad 1 \\ - 1 \quad 6 \quad 5 \quad 8 \\ \hline 2 \quad 7 \quad 2 \quad 3 \\ \hline \end{array}$$

We are left with 3 thousands. We will subtract 1 thousand from 3 thousand.

Subtract the following numbers.

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 3 \quad 2 \quad 2 \\ - 4 \quad 0 \quad 5 \quad 1 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 4 \quad 2 \quad 4 \quad 2 \\ - 1 \quad 0 \quad 2 \quad 3 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 9 \quad 2 \quad 5 \quad 3 \\ - 3 \quad 5 \quad 1 \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 5 \quad 5 \quad 4 \\ - 1 \quad 3 \quad 2 \quad 5 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 9 \quad 5 \quad 3 \quad 1 \\ - 8 \quad 0 \quad 0 \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 1 \quad 3 \quad 7 \\ - 2 \quad 5 \quad 1 \quad 5 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 7 \quad 8 \quad 1 \quad 3 \\ - 1 \quad 3 \quad 6 \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 7 \quad 4 \quad 2 \quad 2 \\ - 2 \quad 3 \quad 6 \quad 2 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 5 \quad 4 \quad 3 \quad 8 \\ - 3 \quad 6 \quad 2 \quad 7 \\ \hline \end{array}$$

$$\begin{array}{r} \text{Th} \quad \text{H} \quad \text{T} \quad \text{O} \\ 6 \quad 8 \quad 6 \quad 9 \\ - 4 \quad 3 \quad 7 \quad 7 \\ \hline \end{array}$$

Subtraction in daily life

Abid has 16 goats on his farm.
He sold 5 goats. How many goats
were left on his farm?



Abid has 16 goats

1 6

He sold 5 goats.

- 5

Number of goats left

1 1

Ahmed has 11 goats left on his farm.

Sana had 148 sweets. She gave away 35 sweets
to her friends. How many sweets were left?

Sana had 148 sweets

1 4 8

She gave away 35 sweets

- 3 5

Number of sweets left

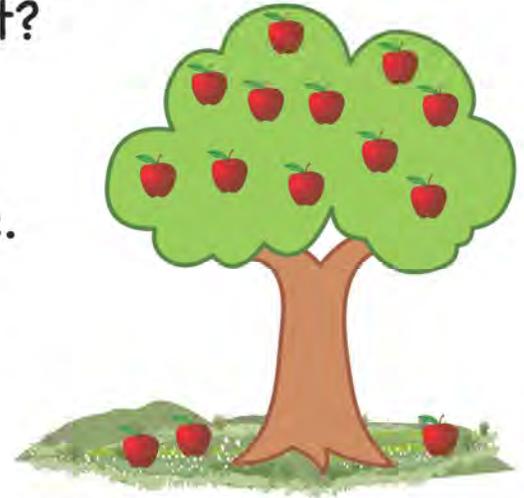
1 1 3

There were 113 sweets left.

1 Ahmed had 15 biscuits. He ate 9 biscuits. How many biscuits were left?

2 There were 29 birds on a tree. 13 birds flew away. How many birds were left?

3 There were 43 apples on a tree. 12 apples fell down. How many apples were left on the tree?



4 Haris had 153 coins. He gave away 32 coins to his brother. How many coins were left with Haris?

5 Sana had 377 candles. She used 240 of them. How many candles were left with Sana?

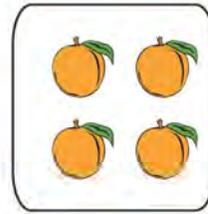
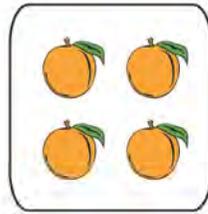
6 There are 345 people in a hall. 132 go out. How many people are left inside the hall?

7 Irfan had 175 eggs. He sold 38 eggs. How many eggs were left?



Repeated Addition & Multiplication

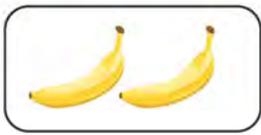
Look at these examples.



$$4 + 4 = 8$$

There are 2 groups.

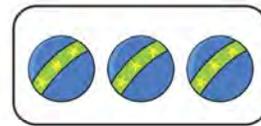
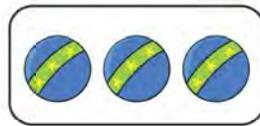
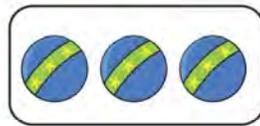
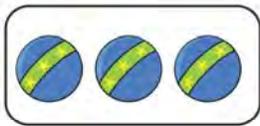
Each group has 4 oranges.



$$2 + 2 + 2 = 6$$

There are 3 groups.

Each group has 2 bananas.

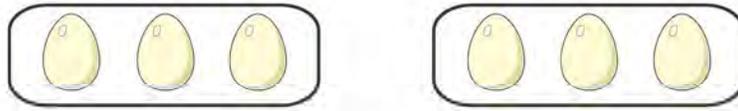


$$3 + 3 + 3 + 3 = 12$$

There are 4 groups.

Each group has 3 balls.

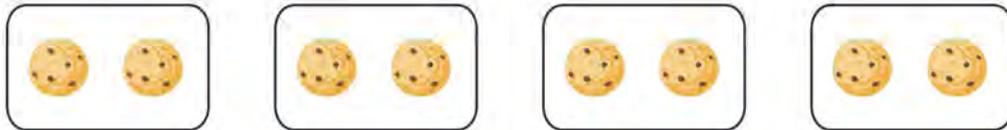
Count the total number of groups. Count the number of objects in each group. Write the total number.



There are _____ groups.

Each group has _____ eggs.

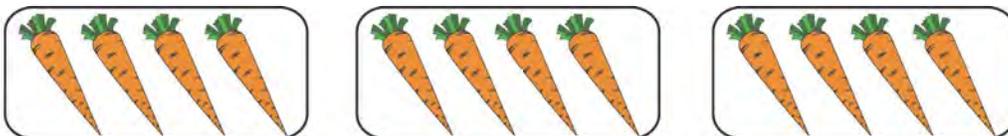
$$3 + 3 = \underline{\quad}$$



There are _____ groups.

Each group has _____ biscuits.

$$2 + 2 + 2 + 2 = \underline{\quad}$$



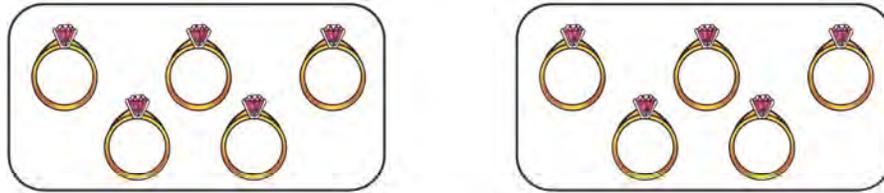
There are _____ groups.

Each group has _____ carrots.

$$4 + 4 + 4 = \underline{\quad}$$

Multiplication

How many rings are there altogether?



$$5 + 5 = 10$$

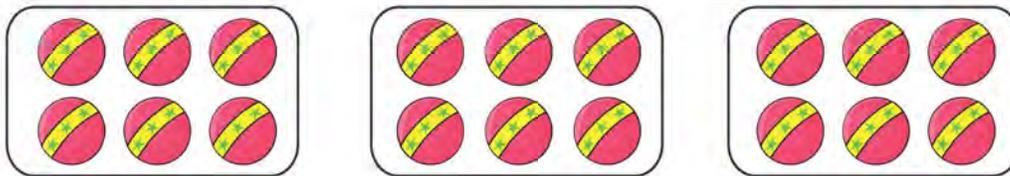
There are 2 groups. Each group has 5 rings.

$$2 \times 5 = 10$$

We say 2 times 5 equals 10.

x is read as **times**.
It means to **multiply**.

How many balls are there altogether?



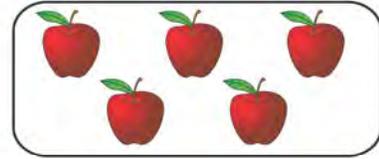
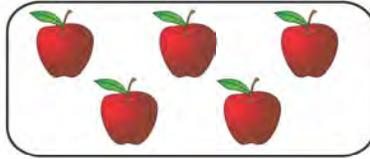
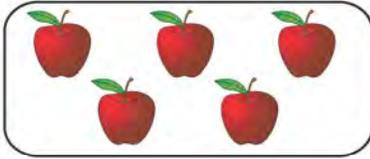
$$6 + 6 + 6 = 18$$

There are 3 groups. Each group has 6 rings.

$$3 \times 6 = 18$$

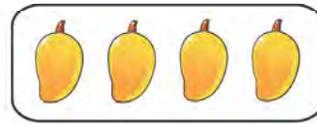
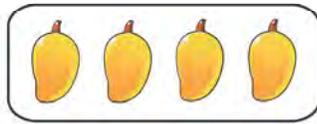
We say 3 times 6 equals 18.

Multiply the numbers.



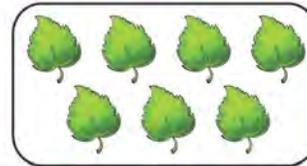
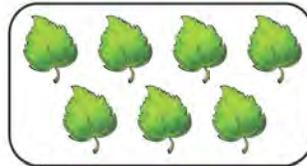
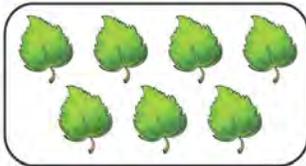
$$3 \times 5 = \underline{\quad}$$

We say 3 times 5 equals _____.



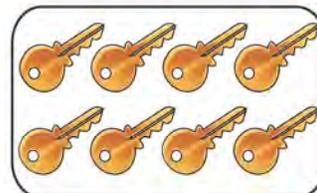
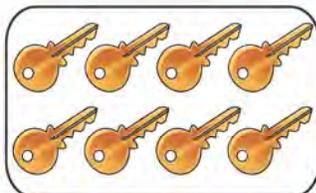
$$2 \times 4 = \underline{\quad}$$

We say 2 times 4 equals _____.



$$3 \times 7 = \underline{\quad}$$

We say 3 times 7 equals _____.



$$2 \times 8 = \underline{\quad}$$

We say 2 times 8 equals _____.

Let's quickly revise the tables we learned in Class 2.



Table of 2

$$1 \times 2 = 2$$

$$2 \times 2 = 4$$

$$3 \times 2 = 6$$

$$4 \times 2 = 8$$

$$5 \times 2 = 10$$

$$6 \times 2 = 12$$

$$7 \times 2 = 14$$

$$8 \times 2 = 16$$

$$9 \times 2 = 18$$

$$10 \times 2 = 20$$

Table of 3

$$1 \times 3 = 3$$

$$2 \times 3 = 6$$

$$3 \times 3 = 9$$

$$4 \times 3 = 12$$

$$5 \times 3 = 15$$

$$6 \times 3 = 18$$

$$7 \times 3 = 21$$

$$8 \times 3 = 24$$

$$9 \times 3 = 27$$

$$10 \times 3 = 30$$

Table of 4

$$1 \times 4 = 4$$

$$2 \times 4 = 8$$

$$3 \times 4 = 12$$

$$4 \times 4 = 16$$

$$5 \times 4 = 20$$

$$6 \times 4 = 24$$

$$7 \times 4 = 28$$

$$8 \times 4 = 32$$

$$9 \times 4 = 36$$

$$10 \times 4 = 40$$

Read the table of 2 and write the answer.

$2 \times 2 = \underline{\quad}$ $3 \times 2 = \underline{\quad}$ $6 \times 2 = \underline{\quad}$

$9 \times 2 = \underline{\quad}$ $1 \times 2 = \underline{\quad}$ $5 \times 2 = \underline{\quad}$

Complete the table of 3.

x	1	2	3	4	5	6	7	8	9	10
3	3	6								

How many triangles are there altogether?



$4 \times \underline{\quad} = \underline{\quad}$

4 times $\underline{\quad}$ equals $\underline{\quad}$

There are $\underline{\quad}$ triangles altogether.

Complete the table of 4.

x	1	2	3	4	5	6	7	8	9	10
4	4	8								

Let's revise the tables of 5 and 10.

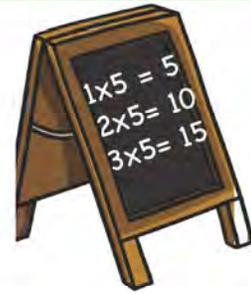


Table of 5

$$1 \times 5 = 5$$

$$2 \times 5 = 10$$

$$3 \times 5 = 15$$

$$4 \times 5 = 20$$

$$5 \times 5 = 25$$

$$6 \times 5 = 30$$

$$7 \times 5 = 35$$

$$8 \times 5 = 40$$

$$9 \times 5 = 45$$

$$10 \times 5 = 50$$

Table of 10

$$1 \times 10 = 10$$

$$2 \times 10 = 20$$

$$3 \times 10 = 30$$

$$4 \times 10 = 40$$

$$5 \times 10 = 50$$

$$6 \times 10 = 60$$

$$7 \times 10 = 70$$

$$8 \times 10 = 80$$

$$9 \times 10 = 90$$

$$10 \times 10 = 100$$

Read the table of 5 and write the answer.

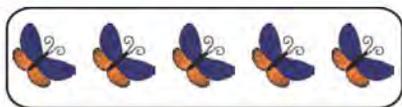
$2 \times 5 = \underline{\quad}$ $5 \times 5 = \underline{\quad}$ $7 \times 5 = \underline{\quad}$

$8 \times 5 = \underline{\quad}$ $3 \times 5 = \underline{\quad}$ $6 \times 5 = \underline{\quad}$

Complete the table of 5.

x	1	2	3	4	5	6	7	8	9	10
5	5	10								

How many butterflies are there altogether?



$2 \times \underline{\quad} = \underline{\quad}$

2 times $\underline{\quad}$ equals $\underline{\quad}$

There are $\underline{\quad}$ butterflies altogether.

Complete the table of 10.

x	1	2	3	4	5	6	7	8	9	10
10	10	20								

Multiplication Table of 6



$1 \times 6 = 6$

1 times 6 equals 6



$2 \times 6 = 12$

2 times 6 equals 12



$3 \times 6 = 18$

3 times 6 equals 18



$4 \times 6 = 24$

4 times 6 equals 24



$5 \times 6 = 30$

5 times 6 equals 30



$6 \times 6 = 36$

6 times 6 equals 36



$7 \times 6 = 42$

7 times 6 equals 42



$8 \times 6 = 48$

8 times 6 equals 48



$9 \times 6 = 54$

9 times 6 equals 54



$10 \times 6 = 60$

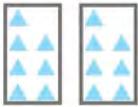
10 times 6 equals 60

Multiplication Table of 7



$1 \times 7 = 7$

1 times 7 equals 7



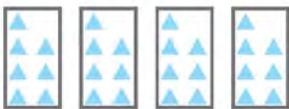
$2 \times 7 = 14$

2 times 7 equals 14



$3 \times 7 = 21$

3 times 7 equals 21



$4 \times 7 = 28$

4 times 7 equals 28



$5 \times 7 = 35$

5 times 7 equals 35



$6 \times 7 = 42$

6 times 7 equals 42



$7 \times 7 = 49$

7 times 7 equals 49



$8 \times 7 = 56$

8 times 7 equals 56



$9 \times 7 = 63$

9 times 7 equals 63



$10 \times 7 = 70$

10 times 7 equals 70

Write the total number of objects.



There are 4 groups. Each group has 7 stars.

$$4 \times 7 = \underline{\hspace{2cm}}$$

4 times 7 equals .



There are 2 groups. Each group has carrots.

$$2 \times 6 = \underline{\hspace{2cm}}$$

2 times 6 equals .

Complete the table of 7.

x	1	2	3	4	5	6	7	8	9	10
7	7	14								

Multiplication Table of 8



$1 \times 8 = 8$

1 times 8 equals 8



$2 \times 8 = 16$

2 times 8 equals 16



$3 \times 8 = 24$

3 times 8 equals 24



$4 \times 8 = 32$

4 times 8 equals 32



$5 \times 8 = 40$

5 times 8 equals 40



$6 \times 8 = 48$

6 times 8 equals 48



$7 \times 8 = 56$

7 times 8 equals 56



$8 \times 8 = 64$

8 times 8 equals 64



$9 \times 8 = 72$

9 times 8 equals 72



$10 \times 8 = 80$

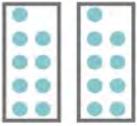
10 times 8 equals 80

Multiplication Table of 9



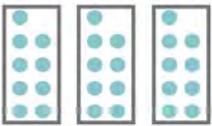
$1 \times 9 = 9$

1 times 9 equals 9



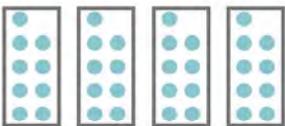
$2 \times 9 = 18$

2 times 9 equals 18



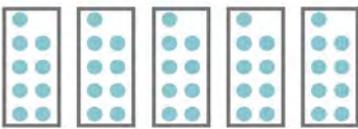
$3 \times 9 = 27$

3 times 9 equals 27



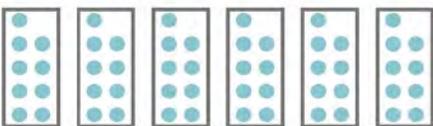
$4 \times 9 = 36$

4 times 9 equals 36



$5 \times 9 = 45$

5 times 9 equals 45



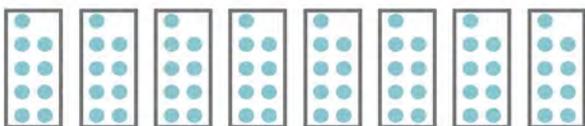
$6 \times 9 = 54$

6 times 9 equals 54



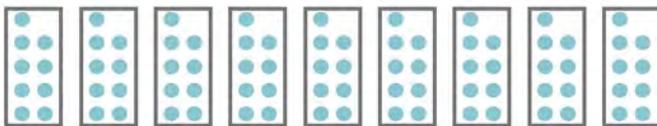
$7 \times 9 = 63$

7 times 9 equals 63



$8 \times 9 = 72$

8 times 9 equals 72



$9 \times 9 = 81$

9 times 9 equals 81



$10 \times 9 = 90$

10 times 9 equals 90

Read the table of 8 and write the answer.

$2 \times 8 = \underline{\quad}$ $5 \times 8 = \underline{\quad}$ $7 \times 8 = \underline{\quad}$

$8 \times 8 = \underline{\quad}$ $3 \times 8 = \underline{\quad}$ $6 \times 8 = \underline{\quad}$

Complete the table of 8.

x	1	2	3	4	5	6	7	8	9	10
8	8	16								

How many leaves are there altogether?



There are 4 groups. Each groups has leaves.

$4 \times 9 = \underline{\quad}$

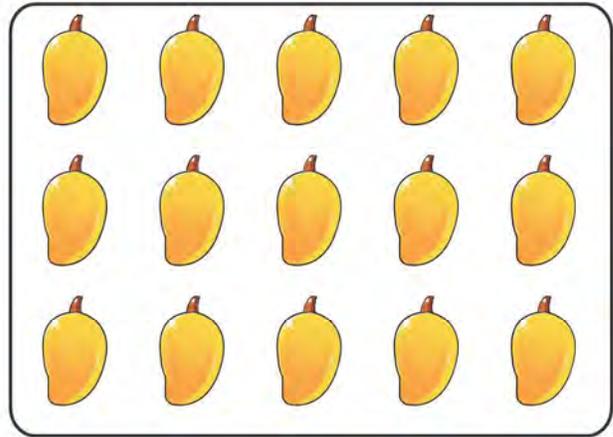
4 times 9 equals .

Complete the table of 9.

x	1	2	3	4	5	6	7	8	9	10
9	9	18								

More about Multiplication

Look at this picture.

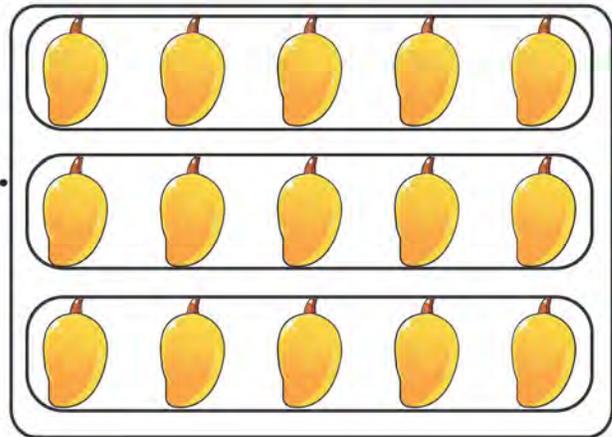


We can describe this picture in 2 ways.

There are 3 groups.

Each group has 5 mangoes.

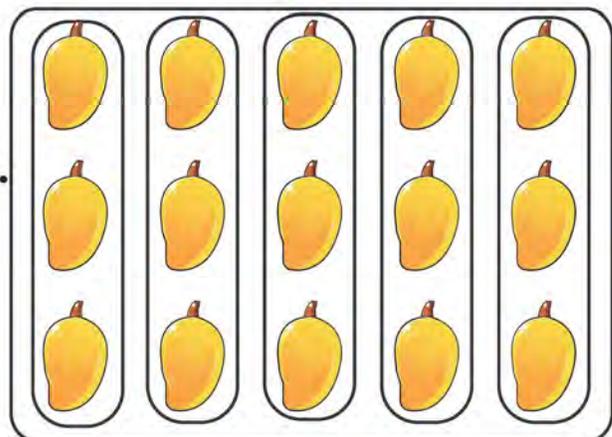
$$3 \times 5 = 15$$



There are 5 groups.

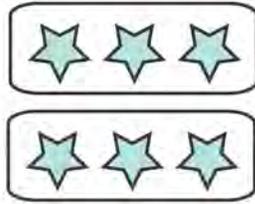
Each group has 3 mangoes.

$$5 \times 3 = 15$$



$$5 \times 3 = 3 \times 5$$

Let's look at some other examples.



There are 2 groups.

Each group has 3 stars.

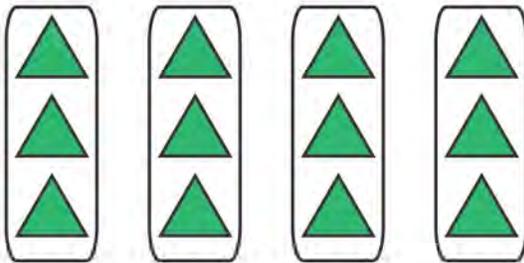
$$2 \times 3 = 6$$



There are 3 groups.

Each group has 2 stars.

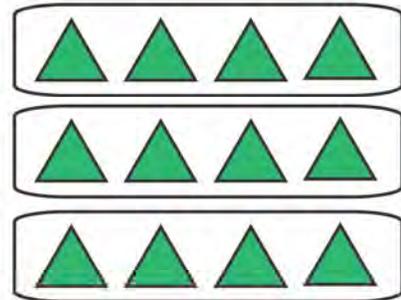
$$3 \times 2 = 6$$



There are 4 groups.

Each group has 3 triangles.

$$4 \times 3 = 12$$



There are 3 groups.

Each group has 4 triangles.

$$3 \times 4 = 12$$

Complete the blanks.

$$4 \times 5 = 20 \quad \text{so} \quad \underline{5} \times \underline{4} = 20$$

$$3 \times 8 = 24 \quad \text{so} \quad \underline{\quad} \times \underline{\quad} = 24$$

$$6 \times 3 = 18 \quad \text{so} \quad \underline{\quad} \times \underline{\quad} = 18$$

$$4 \times 6 = 24 \quad \text{so} \quad \underline{\quad} \times \underline{\quad} = 24$$

$$7 \times 2 = 14 \quad \text{so} \quad \underline{\quad} \times \underline{\quad} = 14$$

$$8 \times 5 = 40 \quad \text{so} \quad \underline{\quad} \times \underline{\quad} = 40$$

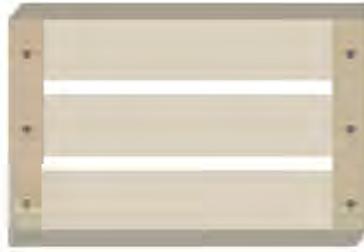
$$1 \times 9 = 9 \quad \text{so} \quad \underline{\quad} \times \underline{\quad} = 9$$

$$2 \times 4 = 8 \quad \text{so} \quad \underline{\quad} \times \underline{\quad} = 8$$

$$9 \times 6 = 54 \quad \text{so} \quad \underline{\quad} \times \underline{\quad} = 54$$

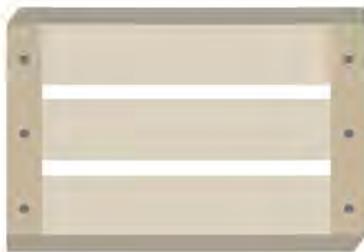
$$10 \times 3 = 30 \quad \text{so} \quad \underline{\quad} \times \underline{\quad} = 30$$

Look at this box. Are there any apples?



There are 0 apples.

What if we have three such boxes? How many apples do we have then?



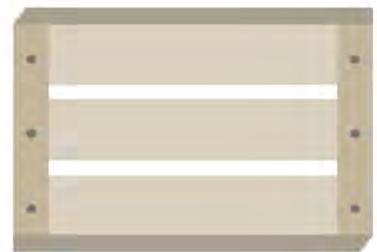
0

+



0

+



0

We still have 0 apples.

$$3 \times 0 = 0$$

If we multiply anything by 0, the answer is still 0.

$$5 \times 0 = 0$$

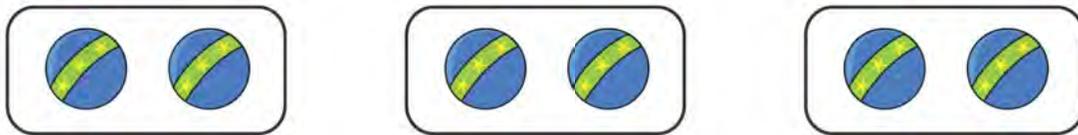
Complete the following.

$$4 \times 0 = \underline{\quad}$$

$$0 \times 6 = \underline{\quad}$$

$$9 \times \underline{\quad} = 0$$

There are 3 boxes. Each box has 2 balls.



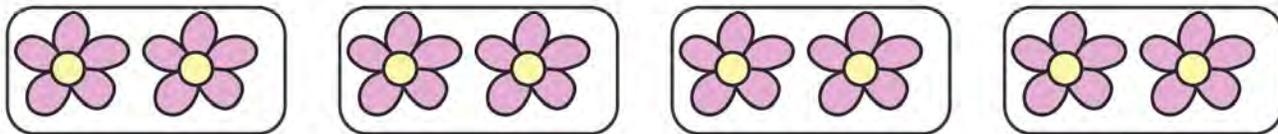
$$3 \times 2 = 6$$

We can also write this as:

$$\begin{array}{r} 2 \\ \times 3 \\ \hline 6 \end{array}$$

We say the product of 3 and 2 is 6.

There are 4 boxes. Each pot has 2 flowers.
How many total flowers are there?



$$4 \times 2 = 8$$

We can also write this as:

$$\begin{array}{r} 2 \\ \times 4 \\ \hline 8 \end{array}$$

We say the product of 4 and 2 is 8.

Multiply the numbers and write the correct answer.

$$\begin{array}{r} 2 \\ \times 1 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 2 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 3 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 4 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 0 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 1 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 1 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 2 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 3 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 1 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 2 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 0 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 1 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 0 \\ \times 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 1 \\ \hline \\ \hline \end{array}$$

Anwar has 3 boxes. Each box has 21 coins.
How many coins are there altogether?

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 2 \quad 1 \\
 \times \quad 3 \\
 \hline
 \hline
 \end{array}$$

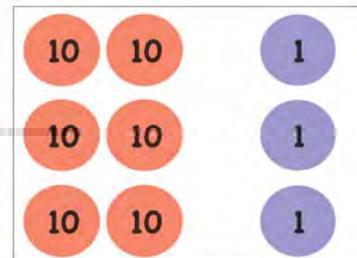


Step 1:
Multiply 1 one by 3.

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 2 \quad 1 \\
 \times \quad 3 \\
 \hline
 \quad 3 \\
 \hline
 \end{array}
 \rightarrow 1 \times 3 = 3$$

Step 2:
Multiply 2 tens by 3.

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 2 \quad 1 \\
 \times \quad 3 \\
 \hline
 6 \quad 3 \\
 \hline
 \end{array}
 \leftarrow 2 \times 3 = 6$$



We say the product of 21 and 3 is 63.

Multiply the numbers and write the correct answer.

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 1 \quad 2 \\ \times \quad 4 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 2 \quad 3 \\ \times \quad 2 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 4 \quad 2 \\ \times \quad 2 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 3 \quad 3 \\ \times \quad 3 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 4 \quad 0 \\ \times \quad 2 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 2 \quad 4 \\ \times \quad 2 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 1 \quad 8 \\ \times \quad 1 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 2 \quad 1 \\ \times \quad 4 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 1 \quad 1 \\ \times \quad 6 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 1 \quad 0 \\ \times \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 1 \quad 2 \\ \times \quad 3 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 2 \quad 0 \\ \times \quad 4 \\ \hline \\ \hline \end{array}$$

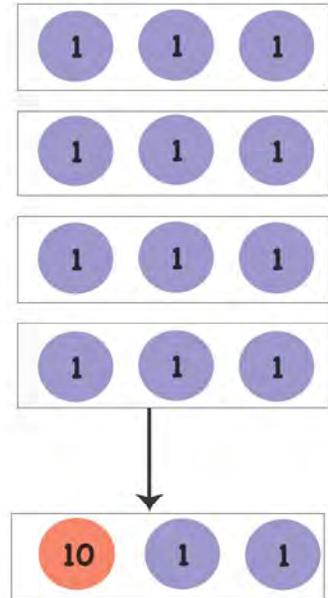
$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 3 \quad 0 \\ \times \quad 3 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 3 \quad 4 \\ \times \quad 2 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 1 \quad 5 \\ \times \quad 0 \\ \hline \\ \hline \end{array}$$

There are 4 boxes. Each box has 3 coins.

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 4 \\ \times \quad \quad 3 \\ \hline \hline \end{array}$$

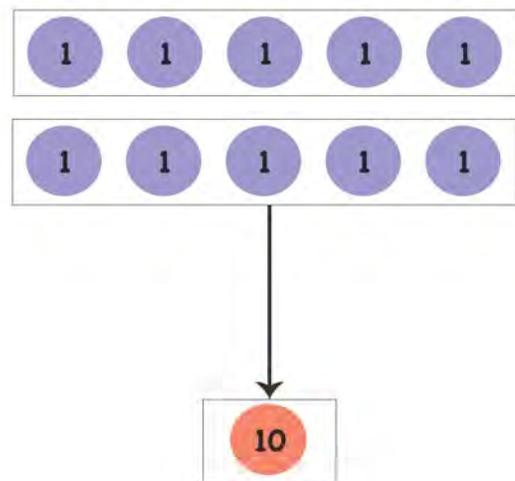


$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 4 \\ \times \quad \quad 3 \\ \hline 1 \quad 2 \end{array}$$

The product of 4 and 3 is 12.

Find the product of 2 and 5.

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 2 \\ \times \quad \quad 5 \\ \hline \hline \end{array}$$



$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 2 \\ \times \quad \quad 5 \\ \hline 1 \quad 0 \end{array}$$

94 The product of 2 and 5 is 10.

Multiply the numbers and write the correct answer.

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 7 \\ \times \quad 4 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 3 \\ \times \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 6 \\ \times \quad 8 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 4 \\ \times \quad 9 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 6 \\ \times \quad 7 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 9 \\ \times \quad 3 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 6 \\ \times \quad 2 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 4 \\ \times \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 6 \\ \times \quad 4 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 2 \\ \times \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 3 \\ \times \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 9 \\ \times \quad 2 \\ \hline \\ \hline \end{array}$$

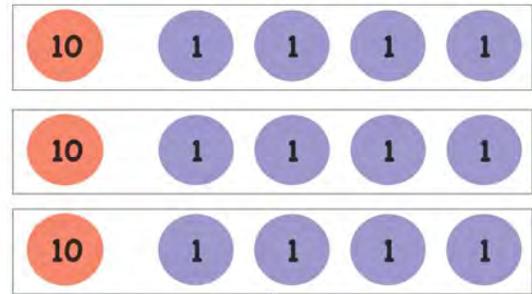
$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 4 \\ \times \quad 3 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 9 \\ \times \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ \quad \quad 7 \\ \times \quad 2 \\ \hline \\ \hline \end{array}$$

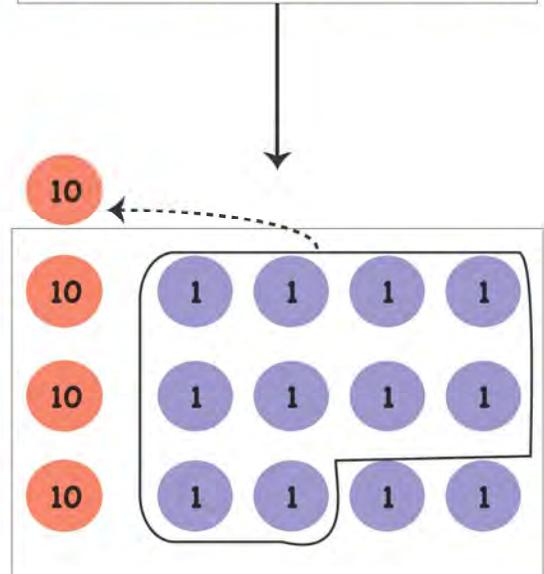
Find the product of 14 and 3.

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 1 \quad 4 \\
 \times \quad 3 \\
 \hline
 \hline
 \end{array}$$



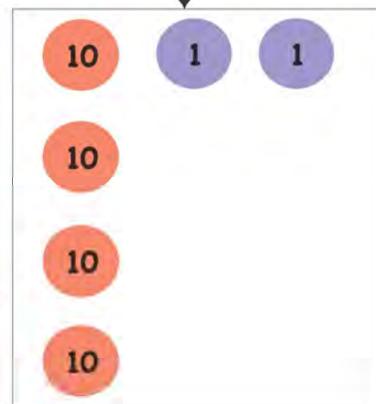
Step 1:
Multiply 4 ones by 3.

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 \overset{1}{1} \quad 4 \\
 \times \quad 3 \\
 \hline
 \quad 2 \\
 \hline
 \end{array}
 \rightarrow
 \begin{array}{l}
 3 \times 4 = 12 \\
 \text{Carry 1 ten to} \\
 \text{the tens side.}
 \end{array}$$



Step 2:
Multiply 1 ten by 3.

$$\begin{array}{r}
 \text{Tens} \quad \text{Ones} \\
 \overset{1}{1} \quad 4 \\
 \times \quad 3 \\
 \hline
 4 \quad 2 \\
 \hline
 \end{array}
 \rightarrow
 \begin{array}{l}
 1 \times 3 = 3 \\
 \text{Add 1 ten that} \\
 \text{you carried over in} \\
 \text{Step 1.} \\
 3 + 1 = 4
 \end{array}$$



The product of 14 and 3 is 42.

Multiply the numbers and write the correct answer.

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 2 \quad 4 \\ \times \quad 4 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 1 \quad 3 \\ \times \quad 6 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 1 \quad 2 \\ \times \quad 8 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 2 \quad 6 \\ \times \quad 3 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 3 \quad 5 \\ \times \quad 2 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 2 \quad 4 \\ \times \quad 3 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 1 \quad 8 \\ \times \quad 2 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 1 \quad 6 \\ \times \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 2 \quad 3 \\ \times \quad 4 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 2 \quad 9 \\ \times \quad 2 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 1 \quad 5 \\ \times \quad 3 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 1 \quad 3 \\ \times \quad 7 \\ \hline \\ \hline \end{array}$$

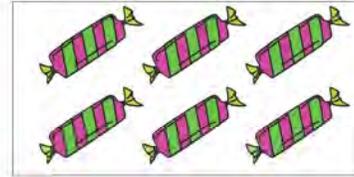
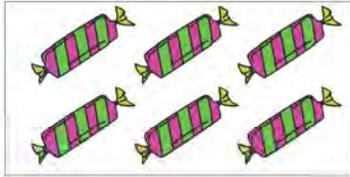
$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 1 \quad 8 \\ \times \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 1 \quad 4 \\ \times \quad 5 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} \text{Tens} \quad \text{Ones} \\ 3 \quad 7 \\ \times \quad 2 \\ \hline \\ \hline \end{array}$$

Multiplication problems in daily life

Ahmed has 6 sweets. Sana has 6 sweets. How many sweets do they have in total?



Ahmed has 6 sweets.

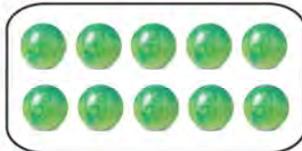
Sana has 6 sweets.

There are 2 children. Each child has 6 sweets.

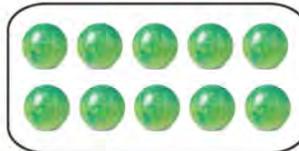
$$2 \times 6 = 12$$

Ahmed and Sana have 12 sweets in total.

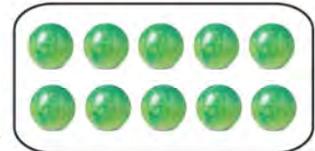
Hassan, Ali and Zara have 10 marbles each. How many marbles are there altogether?



10



10



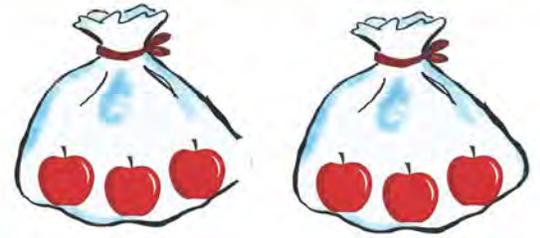
10

There are 3 children. Each child has 10 marbles.

$$3 \times 10 = 30$$

There are 30 marbles altogether.

- 1 Ali has 2 bags. Each bag has 3 apples. How many apples does he have altogether?

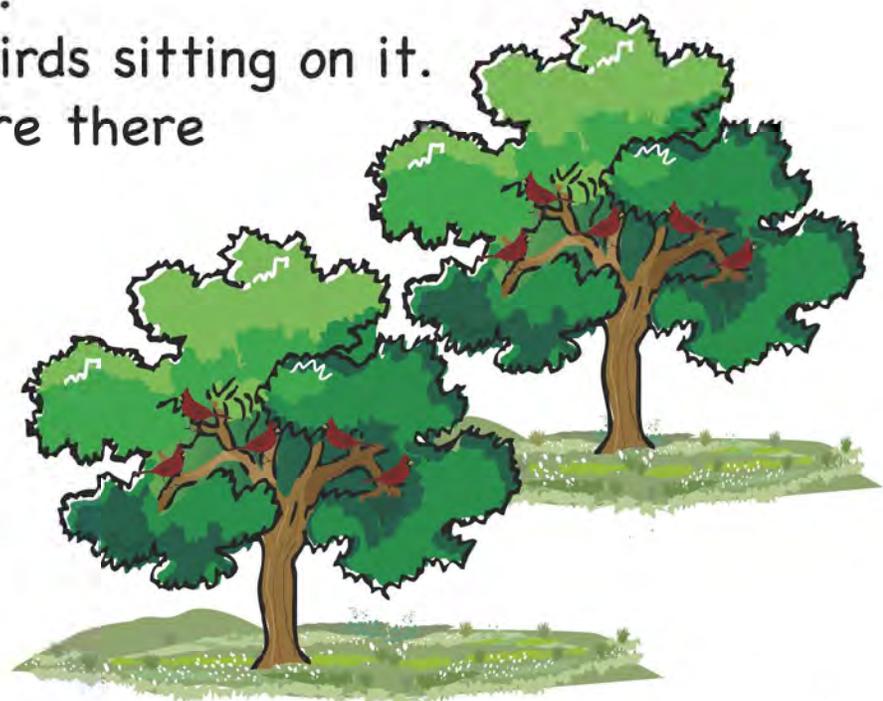


- 2 Sana drinks 2 glasses of milk everyday. How many glasses does she drink in 4 days?

- 3 The price of a pencil is Rs. 5. Hamza buys 8 pencils. What is the total cost that he pays?

- 4 Ahmed has 8 books. Sana has 8 books. How many books do they have altogether?

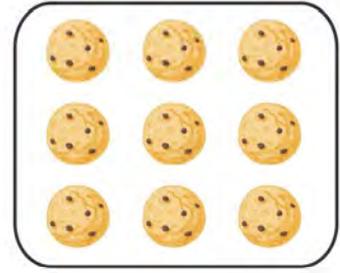
- 5 There are 2 trees. Each tree has 5 birds sitting on it. How many birds are there altogether?





Repeated Subtraction & Division

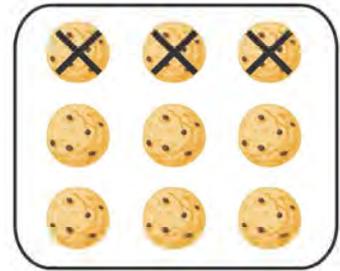
Ali's mother has 9 biscuits.



She gives 3 biscuits to Ali.

$$9 - 3 = 6$$

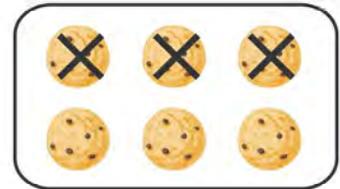
She has 6 biscuits left.



She gives 3 biscuits to Sana.

$$6 - 3 = 3$$

She has 3 biscuits left.



She gives 3 biscuits to Ahmed.

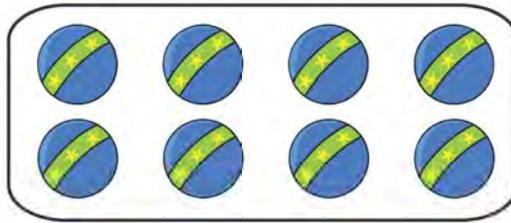
$$3 - 3 = 0$$

She has 0 biscuits left.



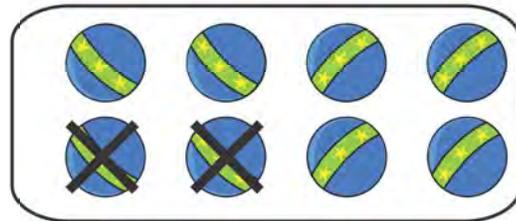
This is called **repeated subtraction**.

There are 8 balls in the box.

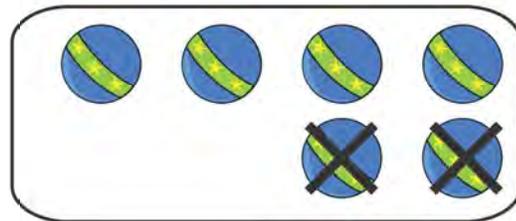


How many times can we subtract 2 till we are left with 0?

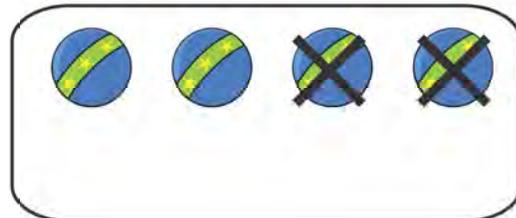
$$8 - 2 = 6$$



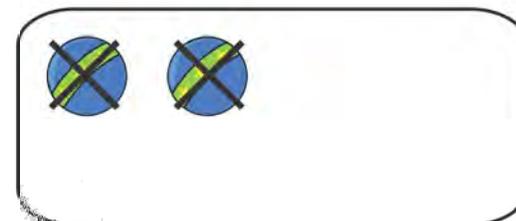
$$6 - 2 = 4$$



$$4 - 2 = 2$$

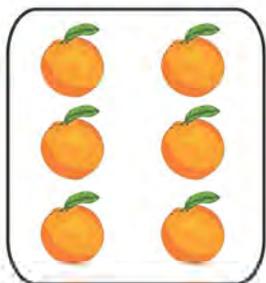


$$2 - 2 = 0$$



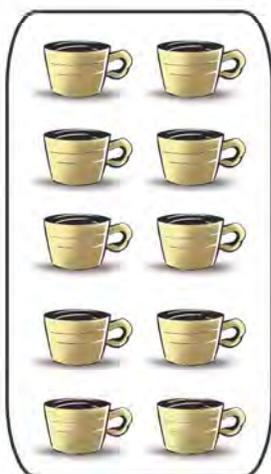
We can subtract 2 four times.

Count the objects. Subtract 2 from them till you are left with 0.



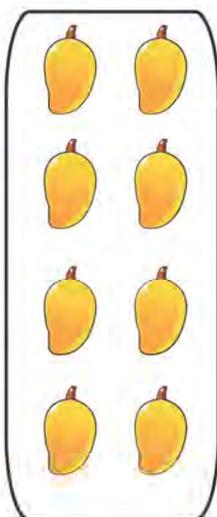
$$\begin{array}{r} 6 - 2 = 4 \\ \underline{4} - 2 = 2 \\ \underline{2} - 2 = 0 \end{array}$$

We can subtract 2 _____ times.



$$\begin{array}{r} \underline{\quad} - 2 = \underline{\quad} \\ \underline{\quad} - 2 = \underline{\quad} \end{array}$$

We can subtract 2 _____ times.



$$\begin{array}{r} \underline{\quad} - 2 = \underline{\quad} \\ \underline{\quad} - 2 = \underline{\quad} \\ \underline{\quad} - 2 = \underline{\quad} \\ \underline{\quad} - 2 = \underline{\quad} \end{array}$$

We can subtract 2 _____ times.

Division

Ali has 6 balls.

He puts them equally into 2 boxes.



$$6 \div 2 = 3$$

6 divided by 2 is equal to 3.

There are 3 balls in each box.

\div is read as **divided by**.
 \div stands for **division**.

Now, Ali puts the balls equally into 3 boxes.



$$6 \div 3 = 2$$

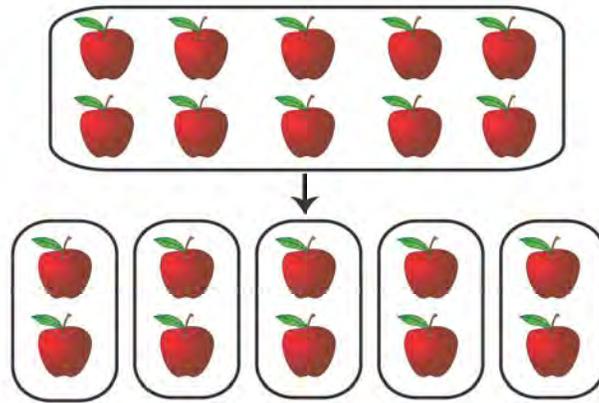
6 divided by 3 is equal to 2.

There are 2 balls in each box.

There are 10 apples in a box.

We want to divide them equally in 5 boxes.

How many apples can we put in each box?



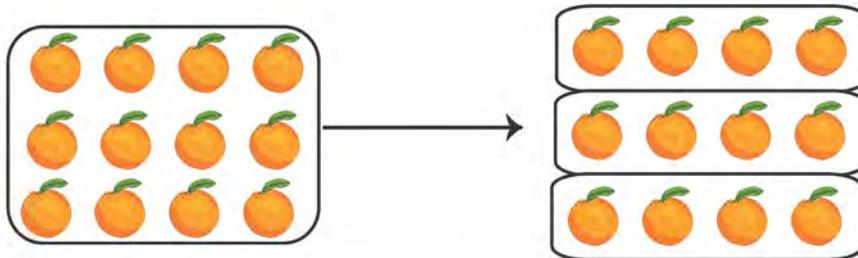
$$10 \div 5 = 2$$

10 divided by 5 is equal to 2.

We can put 2 apples in a box.

There are 12 oranges in 3 boxes.

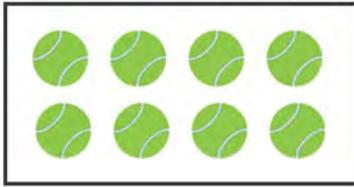
How many oranges are there in each box?



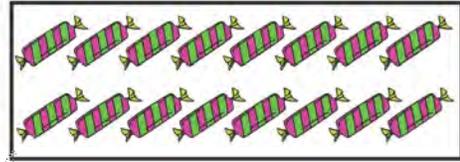
$$12 \div 3 = 4$$

12 divided by 3 is equal to 4. We can put 4 oranges in each box.

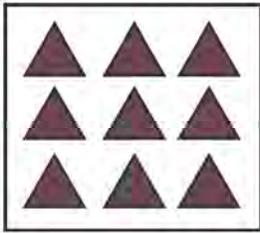
Divide the objects and write the correct answer.



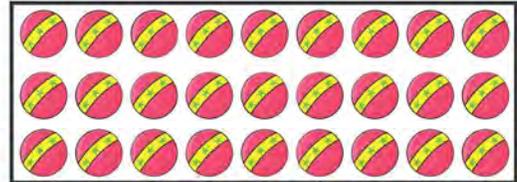
$$8 \div 2 = \underline{\quad}$$



$$16 \div 8 = \underline{\quad}$$



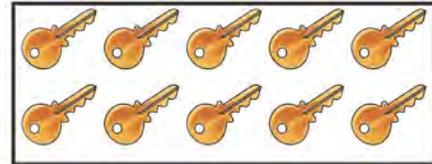
$$9 \div 3 = \underline{\quad}$$



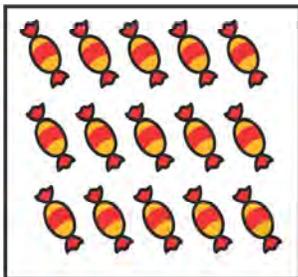
$$30 \div 3 = \underline{\quad}$$



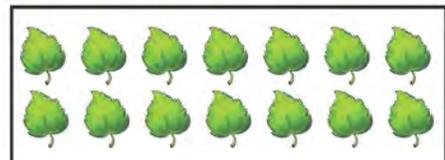
$$12 \div 6 = \underline{\quad}$$



$$10 \div 5 = \underline{\quad}$$

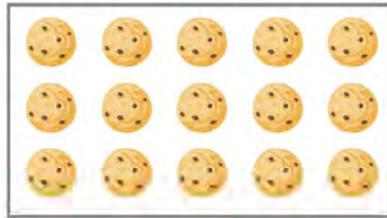


$$15 \div 5 = \underline{\quad}$$



$$14 \div 7 = \underline{\quad}$$

Anum made 15 biscuits.



She wants to put them equally in 3 boxes.

How many biscuits will she put in each box?

$$15 \div 3 = ?$$

Recall the table of 3.

$$1 \times 3 = 3$$

$$2 \times 3 = 6$$

$$3 \times 3 = 9$$

$$4 \times 3 = 12$$

$$5 \times 3 = 15$$

5 times 3 is equal to 15.

So, 15 divided by 3 is equal to 5.

$$15 \div 3 = 5$$

Anum can put 5 biscuits in each box.



Divide these answers.

$4 \div 2 = \underline{\quad}$

$6 \div 2 = \underline{\quad}$

$9 \div 3 = \underline{\quad}$

$8 \div 4 = \underline{\quad}$

$10 \div 5 = \underline{\quad}$

$25 \div 5 = \underline{\quad}$

$16 \div 4 = \underline{\quad}$

$18 \div 9 = \underline{\quad}$

$21 \div 3 = \underline{\quad}$

$56 \div 8 = \underline{\quad}$

$42 \div 7 = \underline{\quad}$

$30 \div 6 = \underline{\quad}$

$6 \div 3 = \underline{\quad}$

$15 \div 3 = \underline{\quad}$

$28 \div 4 = \underline{\quad}$

$35 \div 7 = \underline{\quad}$

$64 \div 8 = \underline{\quad}$

$90 \div 9 = \underline{\quad}$

$72 \div 8 = \underline{\quad}$

$16 \div 2 = \underline{\quad}$

$18 \div 6 = \underline{\quad}$

$20 \div 4 = \underline{\quad}$

$10 \div 2 = \underline{\quad}$

$40 \div 10 = \underline{\quad}$

Divide 28 by 2.

$$28 \div 2$$

Step 1:

Write the division sum like this.

$$2 \overline{) 28}$$

Step 2:

Start from the right side. Divide 2 by 2.

$$\begin{array}{r} 1 \\ 2 \overline{) 28} \\ \underline{-2} \\ 0 \end{array}$$

$2 \times 1 = 2$ **so,**
 $2 \div 2 = 1$

Step 3:

Divide 8 by 2.

$$\begin{array}{r} 1 \quad 4 \\ 2 \overline{) 28} \\ \underline{-2} \downarrow \\ 0 \quad 8 \\ \underline{-8} \\ 0 \end{array}$$

$2 \times 4 = 8$ **so,**
 $8 \div 2 = 4$

$$28 \div 2 = 14$$

Divide these numbers.

$$3 \overline{) 39}$$

$$2 \overline{) 26}$$

$$5 \overline{) 50}$$

$$6 \overline{) 66}$$

$$3 \overline{) 36}$$

$$5 \overline{) 55}$$

$$4 \overline{) 48}$$

$$3 \overline{) 63}$$

$$4 \overline{) 84}$$

$$2 \overline{) 62}$$

$$3 \overline{) 96}$$

$$2 \overline{) 46}$$

Divide 75 by 5.

$$75 \div 5$$

Step 1:

Write the division sum like this.

$$5 \overline{) 75}$$

Step 2:

Start from the right side. Divide 7 by 5.

$$\begin{array}{r} 1 \\ 5 \overline{) 75} \\ - 5 \\ \hline 2 \end{array}$$

We cannot divide 7 equally by 5. We will be left with 2.

Step 3:

Divide 25 by 5.

$$\begin{array}{r} 15 \\ 5 \overline{) 75} \\ - 5 \\ \hline 25 \\ - 25 \\ \hline 0 \end{array}$$

$5 \times 5 = 25$ so,
 $25 \div 5 = 5$

$$75 \div 5 = 15$$

Divide these numbers

$$4 \overline{) 72}$$

$$2 \overline{) 34}$$

$$3 \overline{) 45}$$

$$7 \overline{) 84}$$

$$5 \overline{) 65}$$

$$8 \overline{) 96}$$

$$6 \overline{) 90}$$

$$5 \overline{) 85}$$

$$2 \overline{) 46}$$

$$4 \overline{) 52}$$

$$5 \overline{) 90}$$

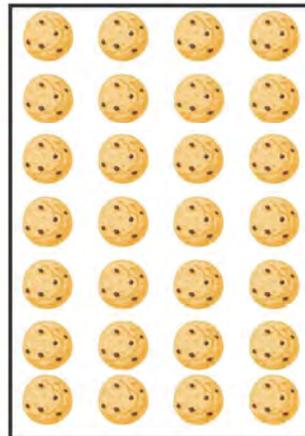
$$3 \overline{) 72}$$

Division problems in daily life

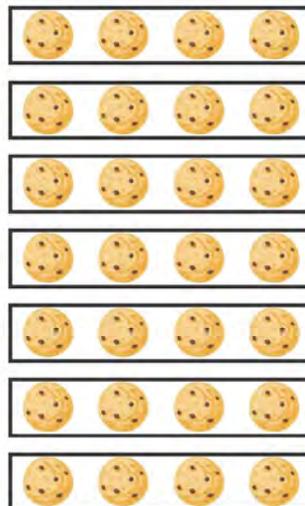
There are 28 biscuits. The biscuits are put equally in 7 boxes. How many biscuits are put in each box?

$$28 \div 7 = ?$$

There are 28 biscuits.



The biscuits are put equally into 7 boxes.



There are 4 biscuits in each box.

$$28 \div 7 = 4$$

- 1 Miss Amna has 14 sweets.
She divides them equally between Ali and Sana. How many sweets do each Ali and Sana get?



- 2 Ahmed has 18 balls. He puts the balls equally into 2 boxes. How many balls does he put in each box?
- 3 There are 30 pencils. Each student gets 3 pencils. How many students are in the class?

- 4 There are 24 balloons.
Each child gets 8 balloons.
How many children are there?



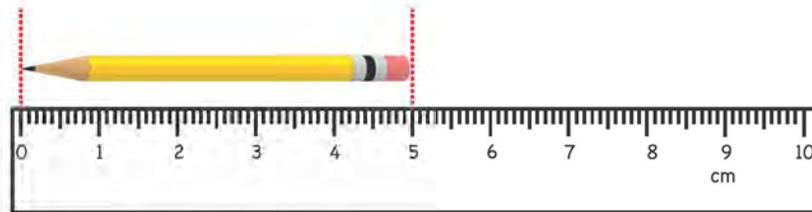
- 5 There are 48 toffees in a pack. They are divided equally among 8 children. How many toffees does each child get?



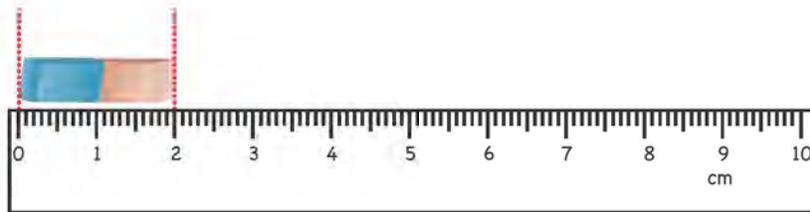
Measuring length

Ahmed and Sana want to measure the length of different objects.

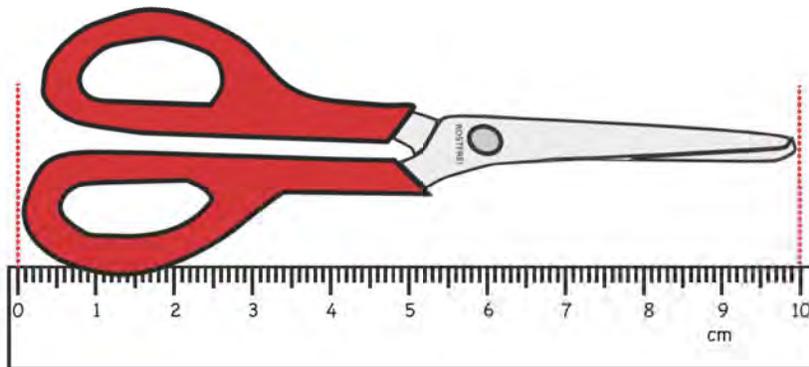
They can use a ruler and measure the length in **centimetres**. We can write centimetres as **cm**.



The pencil is **5 cm** long.



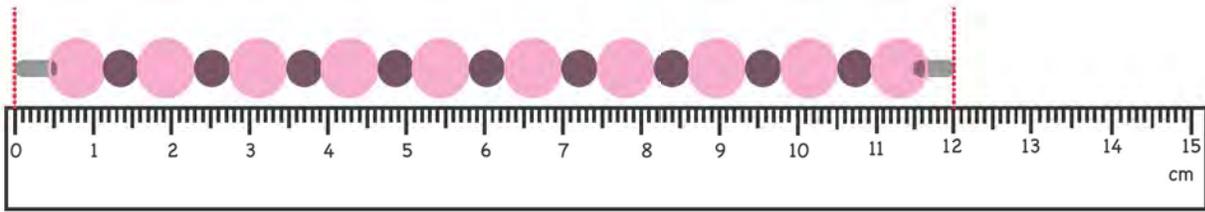
The eraser is **2 cm** long.



The scissors are **10 cm** long.

We use centimetres for shorter objects.

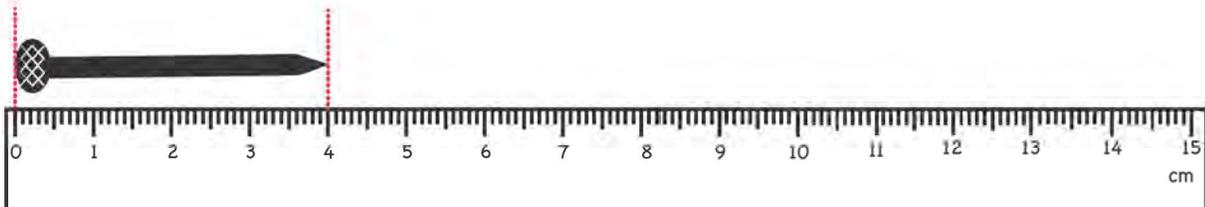
Measure the length of the following objects.



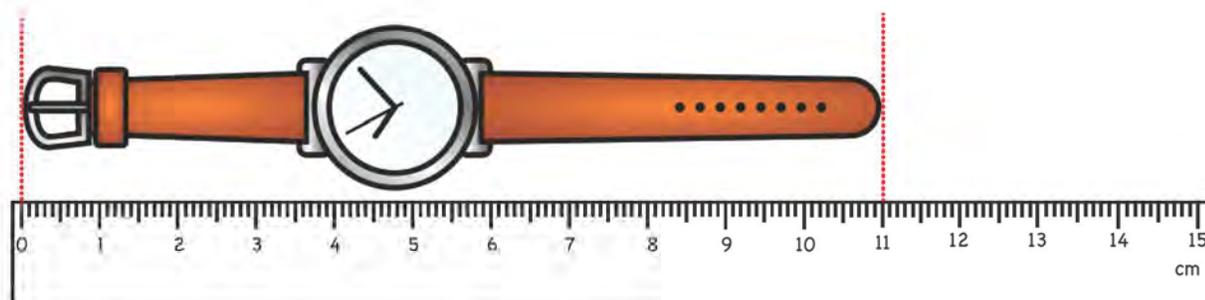
The length of the necklace is _____ cm.



The length of the pencil is _____ cm.



The length of the nail is _____ cm.



The length of the watch is _____ cm.

We can also measure length in meters. We can write metres as m. We use metres for longer objects.

Look at the metre ruler. It is 1 m long.



The plant is less than 1 m.

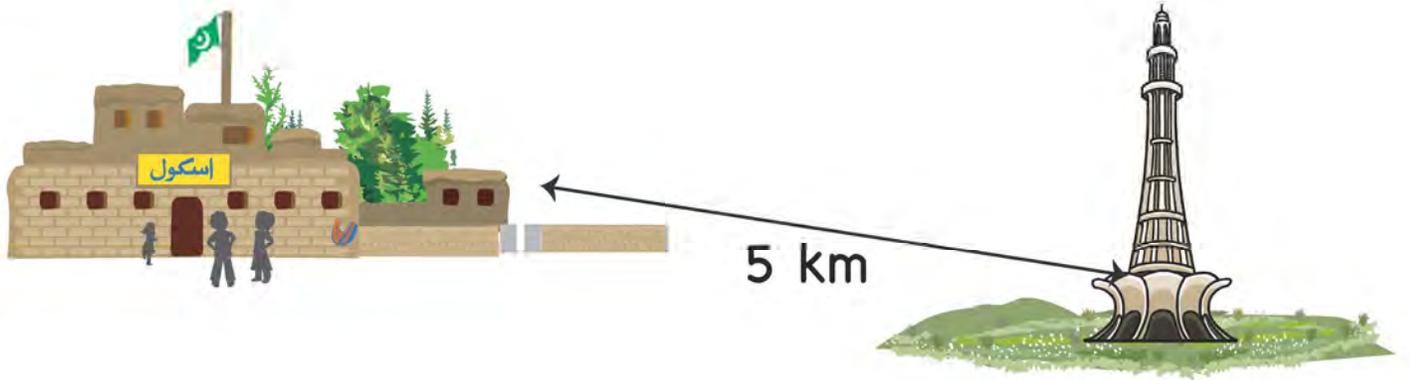
The blackboard is almost 1 m tall.

Look at the objects. Tell whether you will use metres or centimetres to measure them.

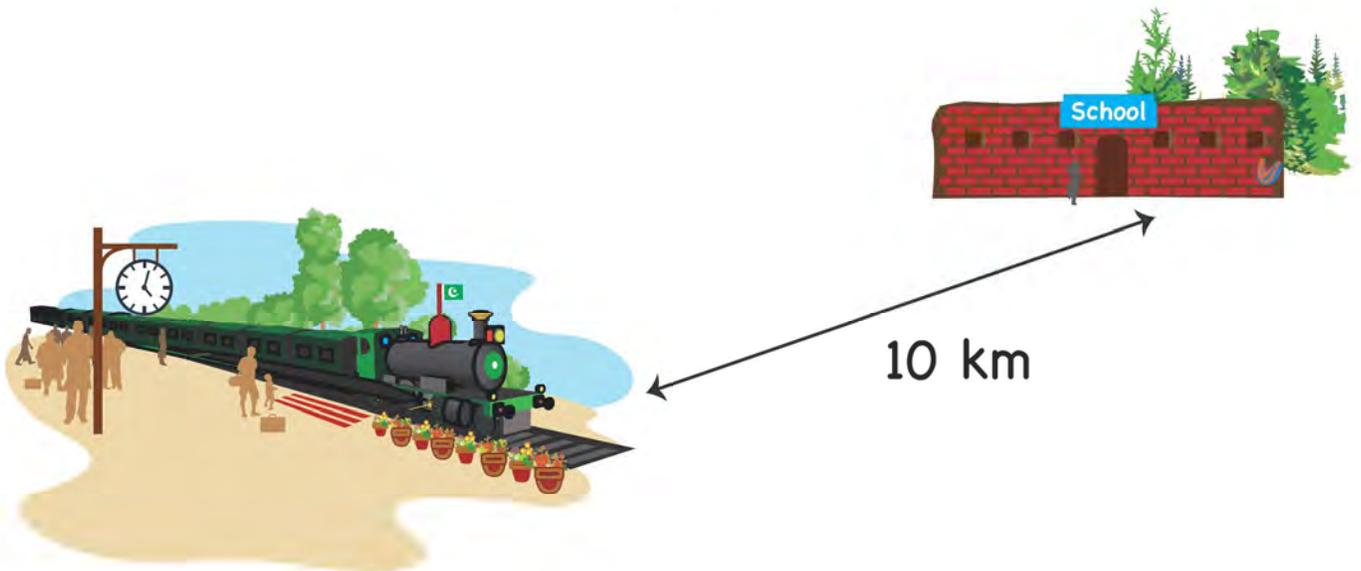
Pencil box		cm	m
Car		cm	m

Kilometres is another unit of length. We can write kilometres as km.

Kilometres is used to measure distances from one place to another.



The distance between Ali's school and Minar-e-Pakistan is 5 km.



The distance between Sana's school and the railway station is 10 km.

Ahmed draws a line. It is 4 cm long.
Hamza draws a line. It is 5 cm long.
What is the total length of both lines?

$$\begin{array}{r} 4 \text{ cm} \\ + 5 \text{ cm} \\ \hline 9 \text{ cm} \end{array}$$

The total length of both lines is 9 cm.

Add the lengths.

$$\begin{array}{r} 4 \text{ cm} \\ + 4 \text{ cm} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 8 \text{ cm} \\ + 3 \text{ cm} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 12 \text{ cm} \\ + 20 \text{ cm} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 13 \text{ cm} \\ + 52 \text{ cm} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 15 \text{ cm} \\ + 23 \text{ cm} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 73 \text{ cm} \\ + 25 \text{ cm} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 43 \text{ m} \\ + 24 \text{ m} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 18 \text{ m} \\ + 21 \text{ m} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 35 \text{ m} \\ + 23 \text{ m} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 80 \text{ km} \\ + 43 \text{ km} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 65 \text{ km} \\ + 70 \text{ km} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 12 \text{ km} \\ + 27 \text{ km} \\ \hline \\ \hline \end{array}$$

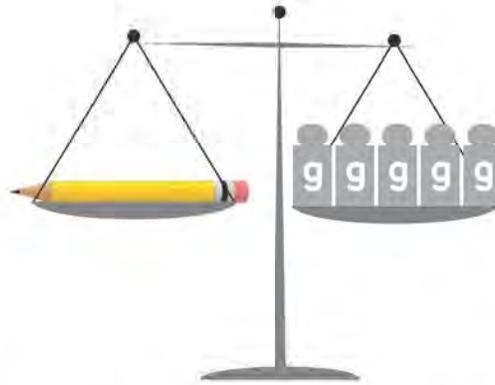
Measuring Mass

Remember the units we used to measure mass?

 = 1 gram

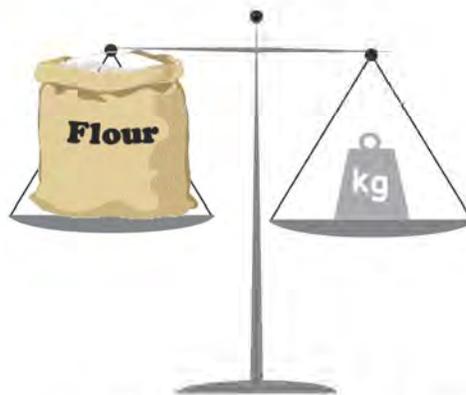
 = 1 kilogram

Zara wants to find the mass of the pencil.



The mass of the pencil is 5 grams.

Ahmed wants to find the mass of the bag of flour.



The mass of a bag of flour is 1 kilogram.

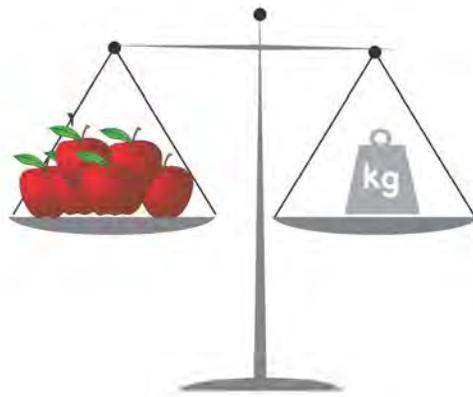
Look at the pictures. Write the mass of each object.



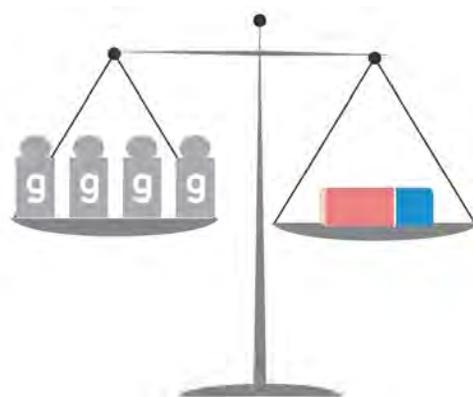
_____ g



_____ kg



_____ kg



_____ g

Ahmed buys fruit from the market. The mass of the apples is 2 kg. The mass of oranges is 3 kg. What is the total mass of apples and oranges?

$$\begin{array}{r}
 2 \text{ kg} \\
 + 3 \text{ kg} \\
 \hline
 5 \text{ kg}
 \end{array}$$

The total mass of the apples and oranges is 5 kg.

Add the mass of objects.

$$\begin{array}{r} 43 \text{ g} \\ + 29 \text{ g} \\ \hline \end{array}$$

$$\begin{array}{r} 64 \text{ g} \\ + 13 \text{ g} \\ \hline \end{array}$$

$$\begin{array}{r} 45 \text{ g} \\ + 13 \text{ g} \\ \hline \end{array}$$

$$\begin{array}{r} 18 \text{ g} \\ + 21 \text{ g} \\ \hline \end{array}$$

$$\begin{array}{r} 33 \text{ g} \\ + 46 \text{ g} \\ \hline \end{array}$$

$$\begin{array}{r} 46 \text{ g} \\ + 21 \text{ g} \\ \hline \end{array}$$

$$\begin{array}{r} 78 \text{ kg} \\ + 23 \text{ kg} \\ \hline \end{array}$$

$$\begin{array}{r} 42 \text{ kg} \\ + 53 \text{ kg} \\ \hline \end{array}$$

$$\begin{array}{r} 26 \text{ kg} \\ + 13 \text{ kg} \\ \hline \end{array}$$

Subtract the mass of objects.

$$\begin{array}{r} 65 \text{ g} \\ - 13 \text{ g} \\ \hline \end{array}$$

$$\begin{array}{r} 48 \text{ g} \\ - 32 \text{ g} \\ \hline \end{array}$$

$$\begin{array}{r} 56 \text{ g} \\ - 12 \text{ g} \\ \hline \end{array}$$

$$\begin{array}{r} 67 \text{ g} \\ - 32 \text{ g} \\ \hline \end{array}$$

$$\begin{array}{r} 49 \text{ g} \\ - 18 \text{ g} \\ \hline \end{array}$$

$$\begin{array}{r} 97 \text{ g} \\ - 86 \text{ g} \\ \hline \end{array}$$

$$\begin{array}{r} 35 \text{ kg} \\ - 19 \text{ kg} \\ \hline \end{array}$$

$$\begin{array}{r} 63 \text{ kg} \\ - 24 \text{ kg} \\ \hline \end{array}$$

$$\begin{array}{r} 74 \text{ kg} \\ - 28 \text{ kg} \\ \hline \end{array}$$

Measuring Capacity

Look at the pot. How many glasses of water can it hold?



This pot can hold 5 glasses of water.

We can also use a standard unit of measurement to measure capacity.

Litre is the standard unit of measurement used to measure **capacity**. We can write it as **L**.

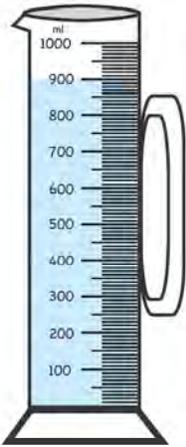
Millilitres is also a standard unit of measurement used to measure capacity. We can write it as **mL**.

Look at this jug.

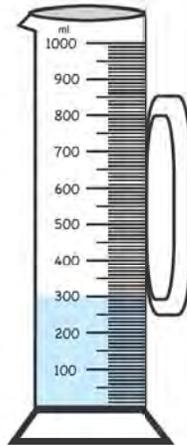
This has 800 mL of water.



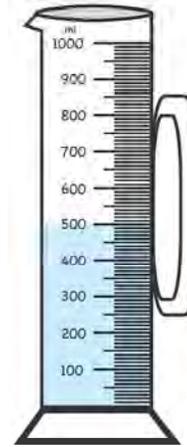
Look at the measuring jug. Write the amount of water in the jug.



_____ mL



_____ mL



_____ mL

Add the mass of objects.

$$\begin{array}{r} 61 \text{ mL} \\ + 28 \text{ mL} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 35 \text{ mL} \\ + 12 \text{ mL} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 42 \text{ mL} \\ + 37 \text{ mL} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 50 \text{ L} \\ + 45 \text{ L} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 32 \text{ L} \\ + 48 \text{ L} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 16 \text{ L} \\ + 24 \text{ L} \\ \hline \\ \hline \end{array}$$

Subtract the mass of objects.

$$\begin{array}{r} 27 \text{ mL} \\ - 43 \text{ mL} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 82 \text{ mL} \\ - 65 \text{ mL} \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 43 \text{ L} \\ - 18 \text{ L} \\ \hline \\ \hline \end{array}$$

Measurement Problems in Daily Life

- 1 Ahmed bought 57 metres long pipe. His brother bought 18 metres long pipe. What is the total length of both pipes?
- 2 Ali has a ball. It's mass is 40 g. Sana has a ball. It's mass is 35 g. What is the total mass of both balls?
- 3 Ali drank 2 litres of water. Sana drank 3 litres of water. How many litres did they drink altogether?
- 4 The distance from Ali's house to the hospital is 20 km. The distance from the hospital to the park is 35 km. What is the sum of both distances?
- 5 My father bought 10 kg flour and 5 kg sugar. What is the total mass of both flour and sugar?

Fractions

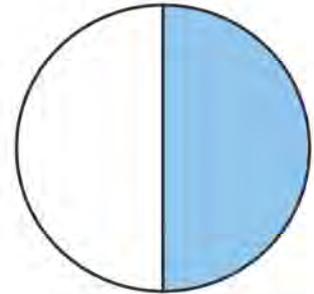


Look at the circle.

It is divided into 2 equal parts.

1 part out of 2 is coloured

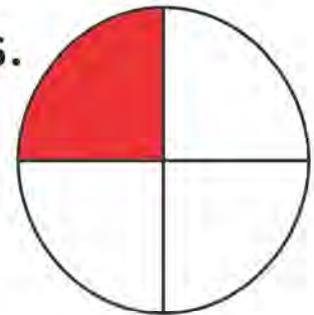
$\frac{1}{2}$ of the circle is coloured.



The circle is divided into 4 equal parts.

1 part out of 4 is coloured.

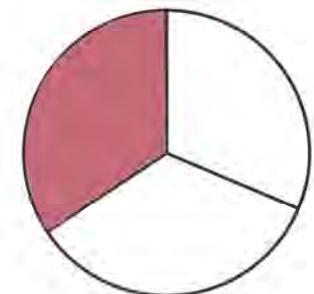
$\frac{1}{4}$ of the circle is coloured.



The circle divided into 3 equal parts.

1 part out of 3 is coloured.

$\frac{1}{3}$ of the circle is coloured.



$\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{3}$ are examples of fractions.

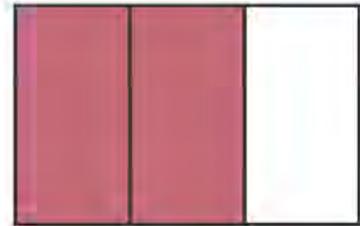
A **fraction** shows a part of a whole that is cut into **equal parts**.

Look at the rectangle.

It is divided into 3 equal parts

2 parts out of 3 are coloured.

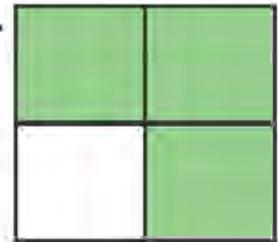
$\frac{2}{3}$ of the rectangle is coloured.



The square is divided into 4 equal parts.

3 parts out of 4 are coloured.

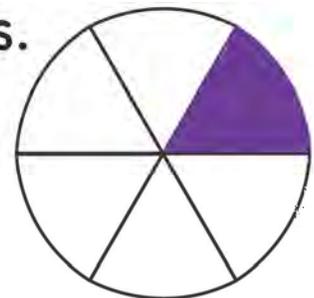
$\frac{3}{4}$ of the square is coloured.



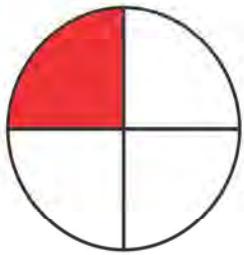
The circle is divided into 6 equal parts.

1 part out of 6 is coloured.

$\frac{1}{6}$ of the square is coloured.



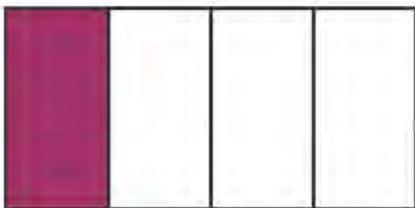
A fraction has 2 parts.



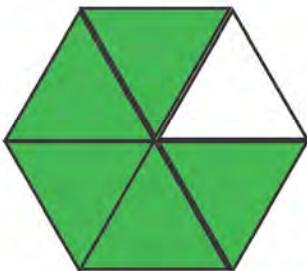
$\frac{1}{4}$ numerator
denominator

A numerator shows the number of equal parts of a whole that are coloured.

A denominator shows the number of equal parts the whole is divided into.



$\frac{1}{4}$ numerator
denominator



$\frac{5}{6}$ numerator
denominator

Look at the rectangle.
What fraction of the
rectangle is coloured?



Count the total number of parts. Write them
under the line. This is the **denominator**.

$$\frac{\quad}{5}$$

The rectangle has
5 parts so we will
write 5
under the line.



Count the number of coloured parts. Write
them above the line. This is the **numerator**.

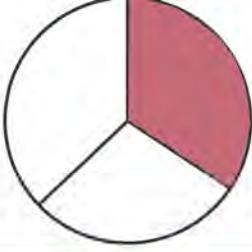
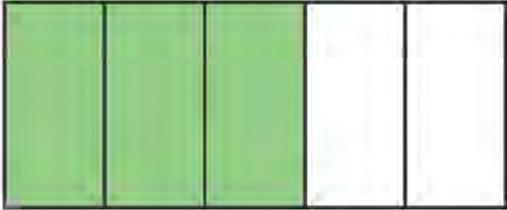
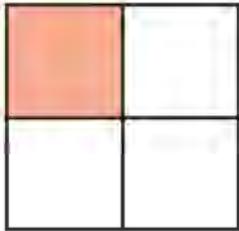
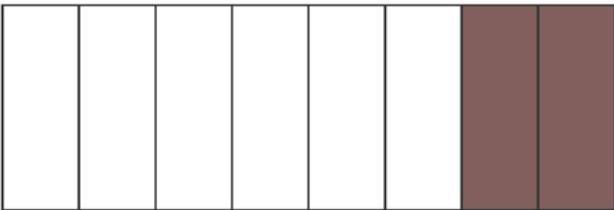
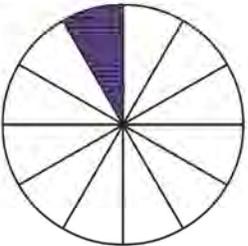
$$\frac{1}{5}$$

The rectangle has
1 coloured part so we
will write 1
above the line.

$\frac{1}{5}$ of the rectangle is coloured.

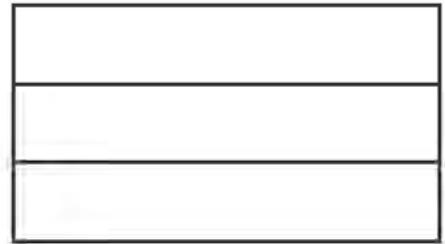
$\frac{1}{5}$ numerator
 ↓
 denominator

Look at the total number of parts. Then look at the coloured part. Write the fraction that is coloured.

Look at the rectangle.

Colour $\frac{2}{3}$ of the rectangle.

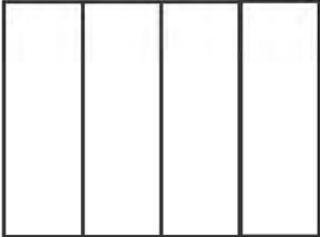
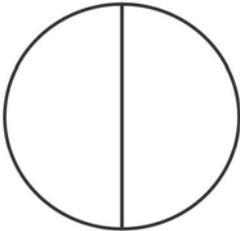
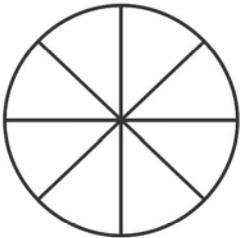


$\frac{2}{3} = 2$ out of 3
equal parts

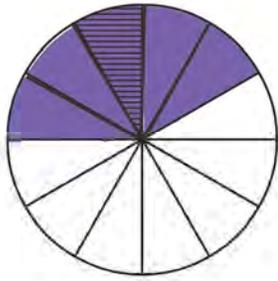
We will colour 2 out of 3 parts.



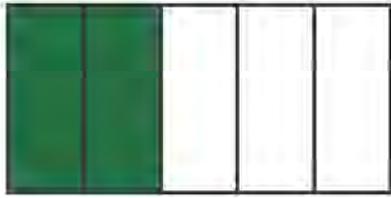
Look at the fraction and colour the figure.

$\frac{3}{4}$	
$\frac{1}{2}$	
$\frac{5}{8}$	

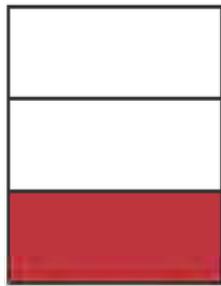
Match the fraction with the correct figure.



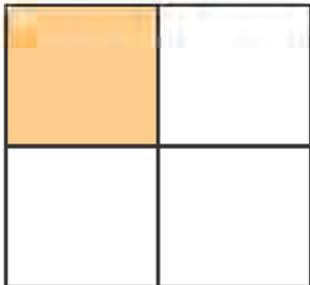
$$\frac{1}{3}$$



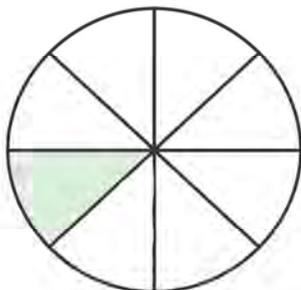
$$\frac{5}{12}$$



$$\frac{1}{4}$$



$$\frac{1}{8}$$

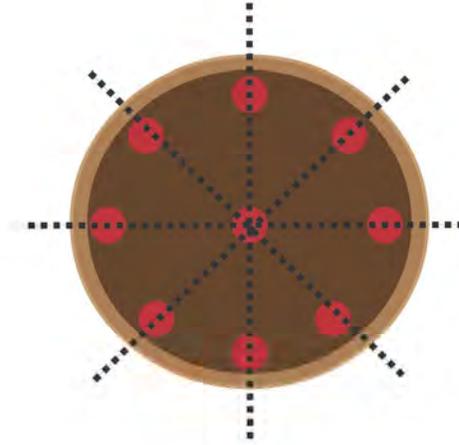


$$\frac{2}{5}$$

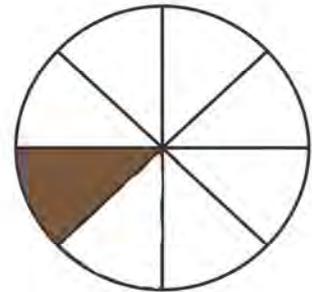
Comparing Fractions

It is Ali's birthday.

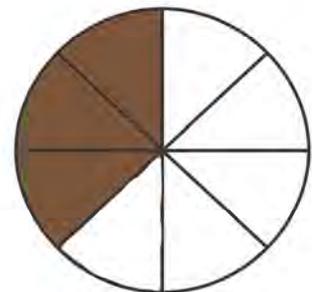
Ali's mother cut the cake into 8 equal pieces.



Sana ate 1 piece. We can say that she ate $\frac{1}{8}$ of the cake.



Ali ate 3 pieces. We can say that he ate $\frac{3}{8}$ of the cake.



Who ate more cake?

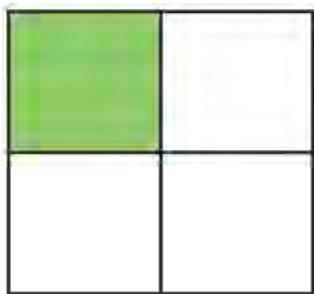


$\frac{3}{8}$ is greater than $\frac{1}{8}$ so Ali ate more cake.

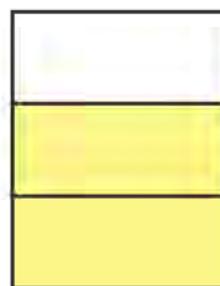
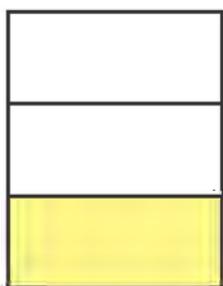
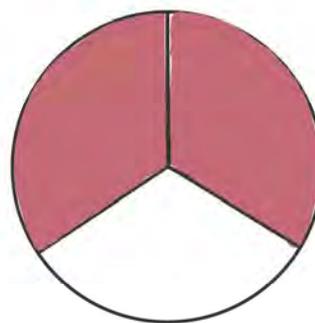
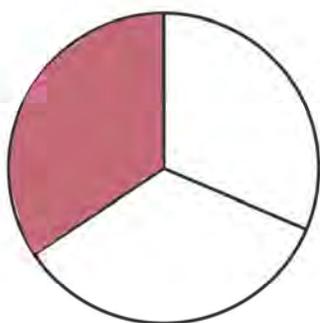
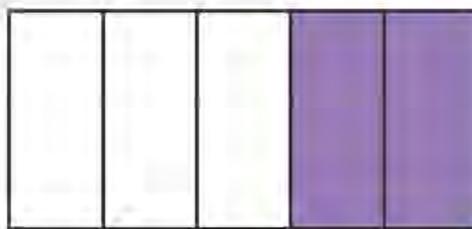
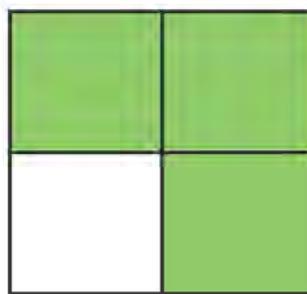
Compare the fractions and write the correct sign in the middle.

> = <

Remember:
open side |>
closed side |<
= equal



<



Which fraction is greater?

$$\frac{5}{8} \quad \frac{2}{8}$$

Compare the numerators.

$$\frac{5}{8} > \frac{2}{8}$$

5 is greater than 2.

$\frac{5}{8}$ is greater than $\frac{2}{8}$

Use these symbols to compare fractions.

> < =

$$\frac{3}{7} \square \frac{5}{7}$$

$$\frac{2}{5} \square \frac{1}{5}$$

$$\frac{3}{10} \square \frac{7}{10}$$

$$\frac{3}{8} \square \frac{7}{8}$$

$$\frac{5}{12} \square \frac{7}{12}$$

$$\frac{3}{4} \square \frac{3}{4}$$

$$\frac{5}{8} \square \frac{1}{8}$$

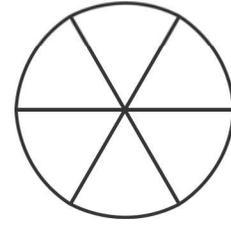
$$\frac{1}{9} \square \frac{8}{9}$$

$$\frac{1}{5} \square \frac{3}{5}$$

Addition and Subtraction of Fractions

Ali's mother makes a pizza.

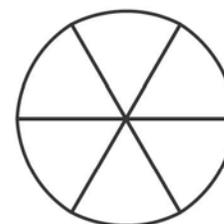
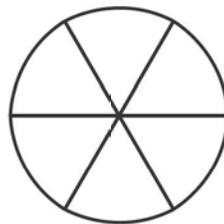
She divides the pizza into 6 parts.



Sana eats $\frac{1}{6}$ of pizza.



Ali eats $\frac{1}{6}$ of pizza.



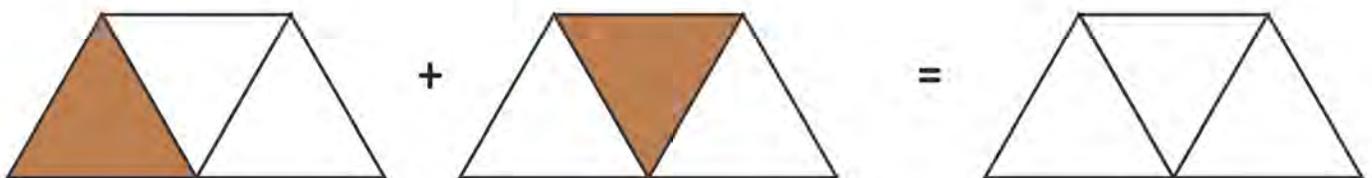
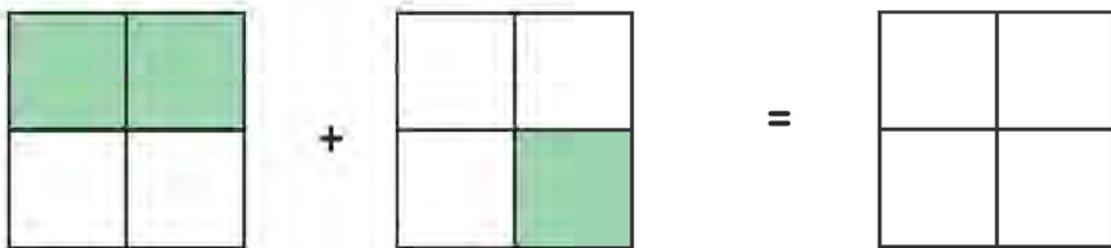
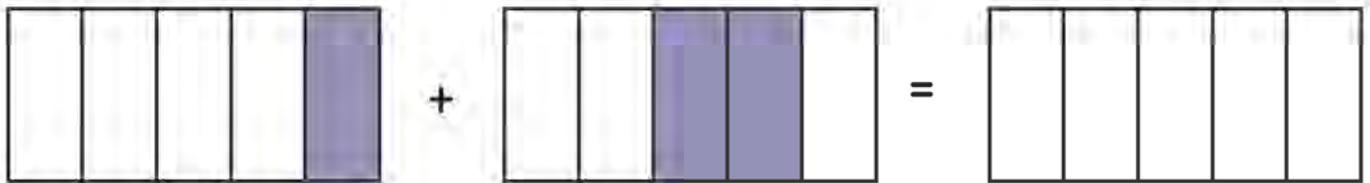
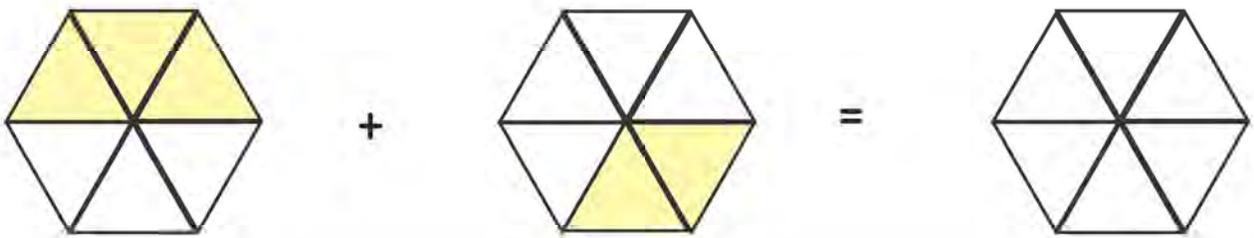
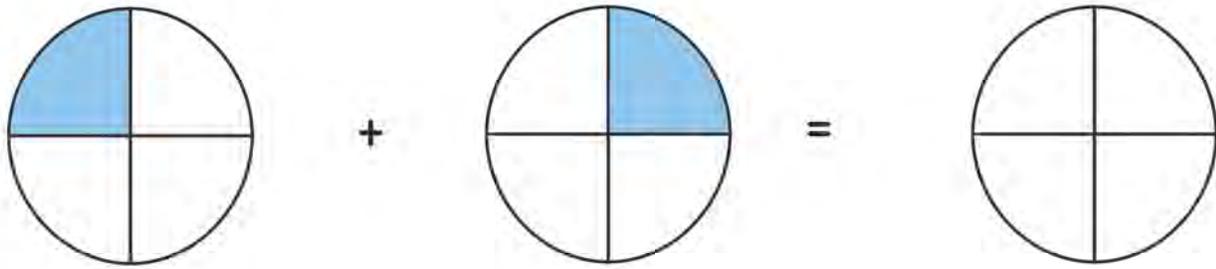
$$\frac{1}{6} + \frac{1}{6} = \frac{2}{6}$$

Together, Ali and Sana eat $\frac{2}{6}$ of pizza.

To add fractions, add the numerators.

$$\frac{1}{5} + \frac{3}{5} = \frac{4}{5}$$

Look at the figures. Add the fraction and colour the figure.



Add the fraction and write the correct answer.

$$\frac{2}{5} + \frac{1}{5} = \frac{1}{6} + \frac{3}{6} =$$

$$\frac{7}{12} + \frac{3}{12} = \frac{4}{10} + \frac{2}{10} =$$

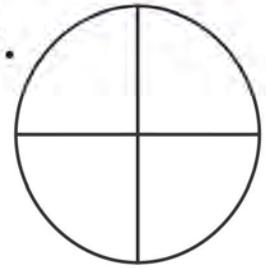
$$\frac{7}{11} + \frac{1}{11} = \frac{4}{9} + \frac{2}{9} =$$

$$\frac{3}{8} + \frac{1}{8} = \frac{2}{10} + \frac{7}{10} =$$

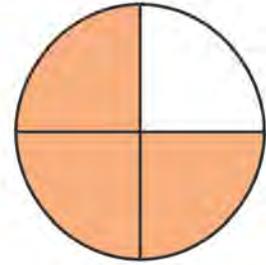
$$\frac{2}{7} + \frac{4}{7} = \frac{3}{7} + \frac{1}{7} =$$

$$\frac{11}{20} + \frac{7}{20} = \frac{10}{17} + \frac{2}{17} =$$

Look at the circle. It has 4 equal parts.

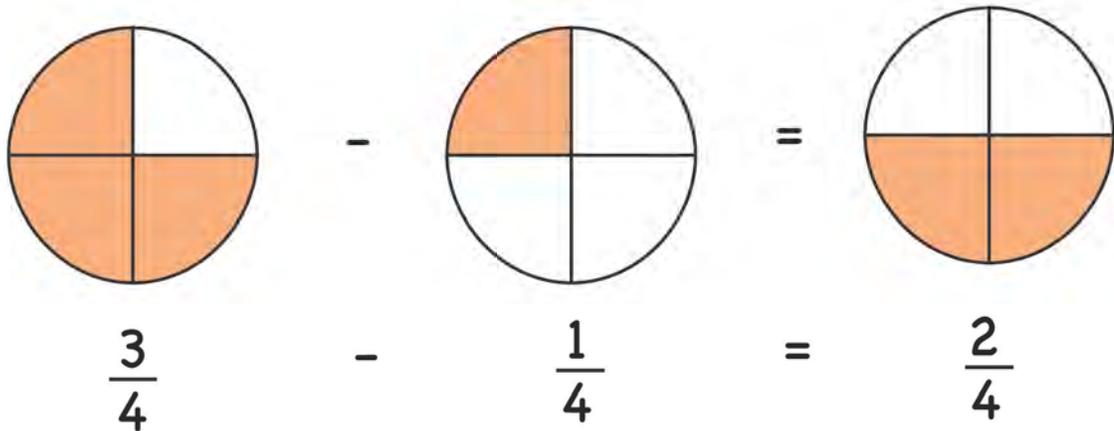


Ali colours $\frac{3}{4}$ of the circle.



He then erases colour from $\frac{1}{4}$ of the circle.

What fraction is left coloured?

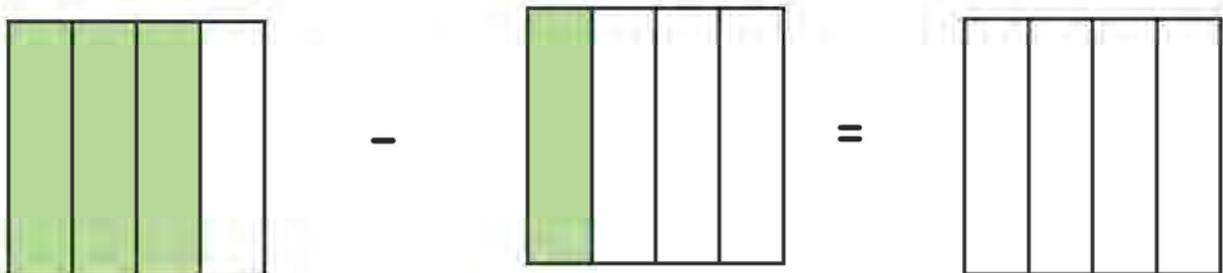
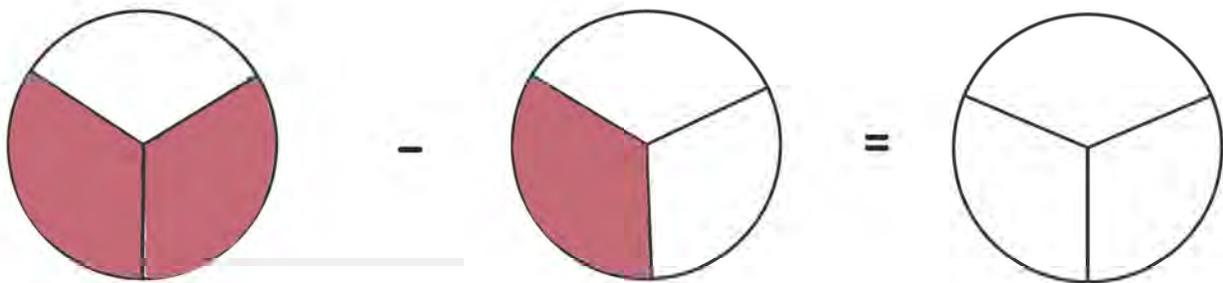
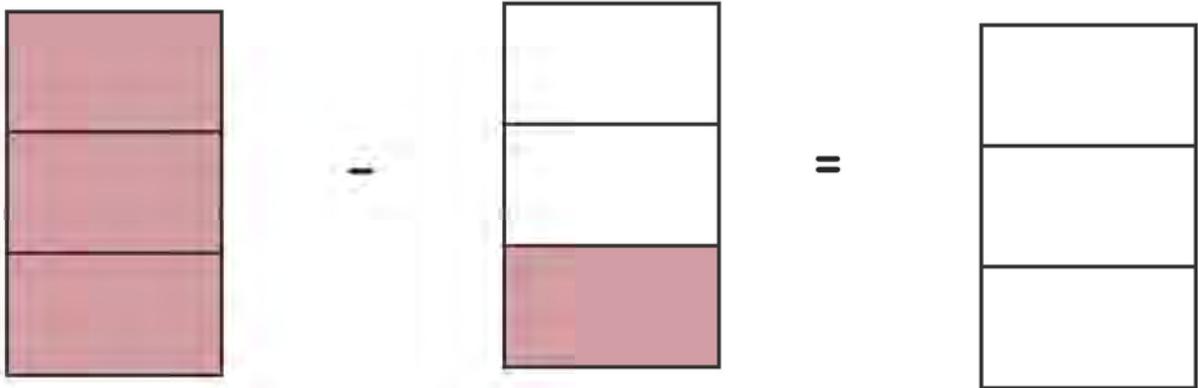
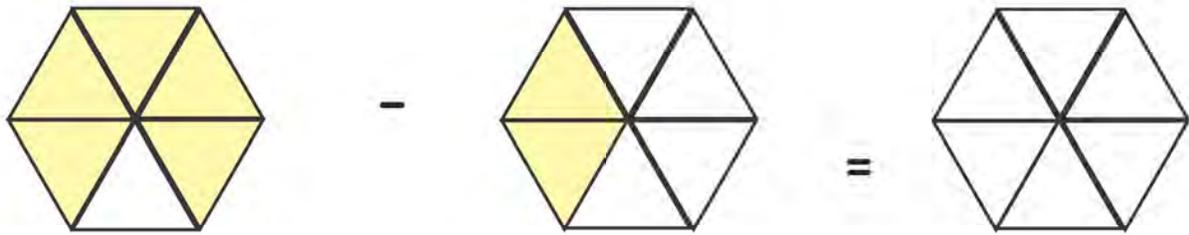


$\frac{2}{4}$ of the circle is left coloured.

To subtract fractions, subtract the numerators.

$$\frac{5}{7} - \frac{1}{7} = \frac{4}{7}$$

Look at the figures. Subtract the fraction and colour the remaining figure.



Subtract the fraction and write the correct answer.

$$\frac{8}{13} - \frac{4}{13} =$$

$$\frac{4}{7} - \frac{2}{7} =$$

$$\frac{4}{9} - \frac{1}{9} =$$

$$\frac{12}{19} - \frac{6}{19} =$$

$$\frac{6}{10} - \frac{2}{10} =$$

$$\frac{7}{11} - \frac{5}{11} =$$

$$\frac{3}{8} - \frac{1}{8} =$$

$$\frac{5}{12} - \frac{1}{12} =$$

$$\frac{5}{9} - \frac{3}{9} =$$

$$\frac{9}{13} - \frac{5}{13} =$$

$$\frac{8}{17} - \frac{3}{17} =$$

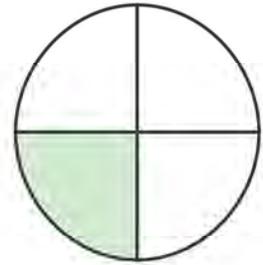
$$\frac{8}{15} - \frac{4}{15} =$$

Equivalent Fractions

Ali makes a circle.

He divides the circle into 4 parts.

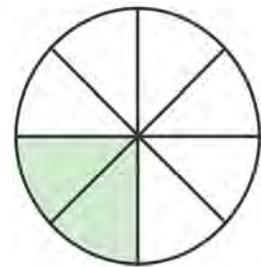
He colours $\frac{1}{4}$ of the circle.



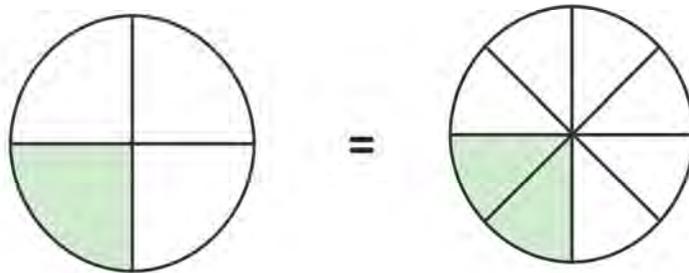
Sana makes a circle.

She divides the circle into 8 parts.

She colours $\frac{2}{8}$ of the circle.



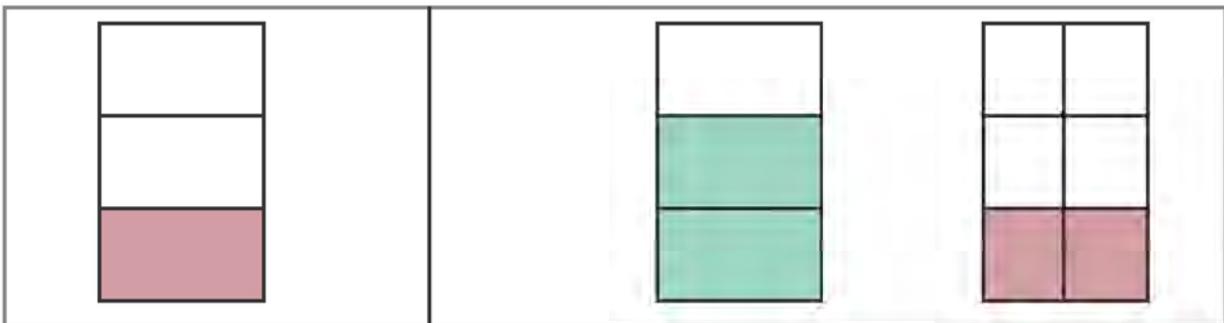
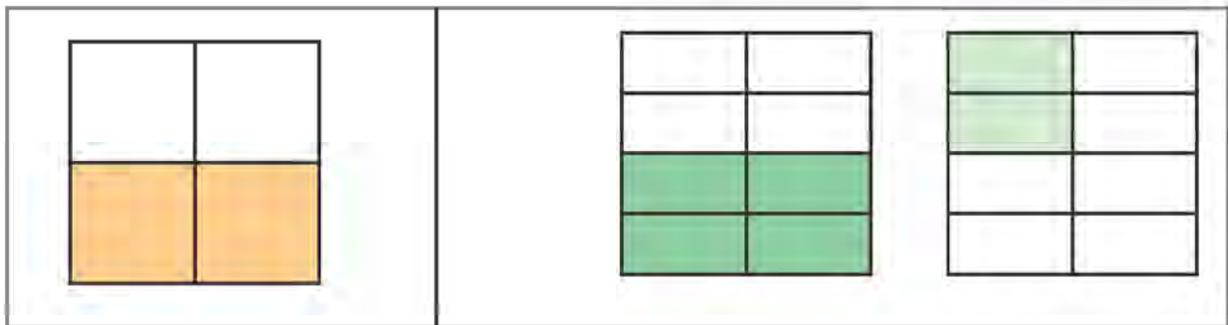
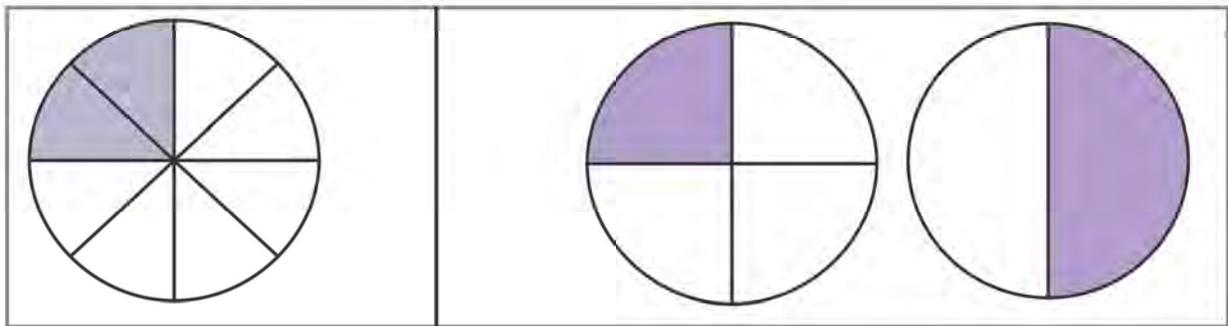
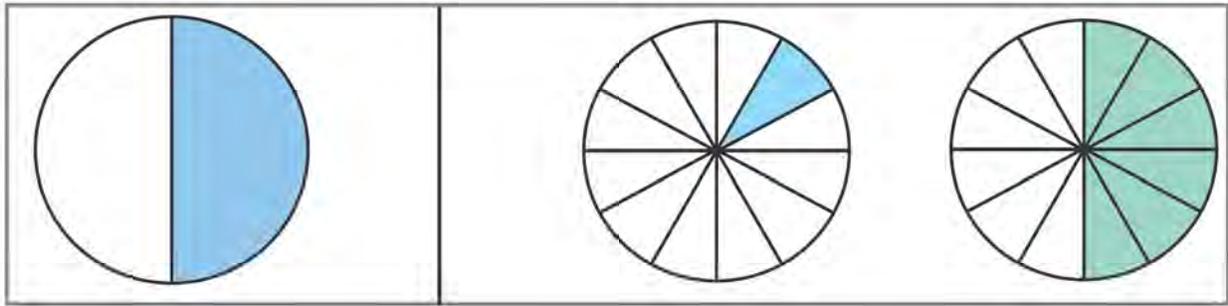
The shaded area remains the same.



$$\frac{1}{4} = \frac{2}{8}$$

These are known as **equivalent fractions**.

Look at the fraction. Look at the options. Tick the equivalent fraction.





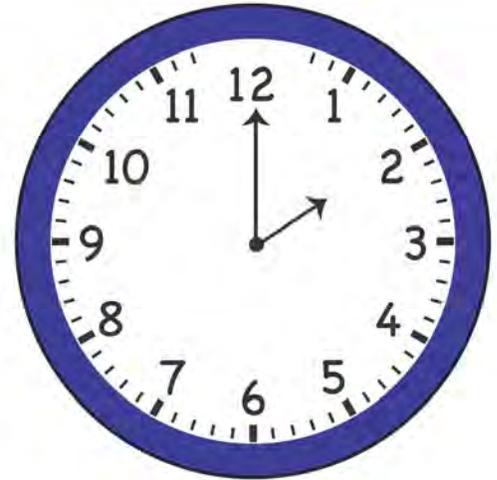
Time

A clock tells us the time.

It has a **minute hand** and an **hour hand**.

The longer hand is the minute hand. It shows us the minutes.

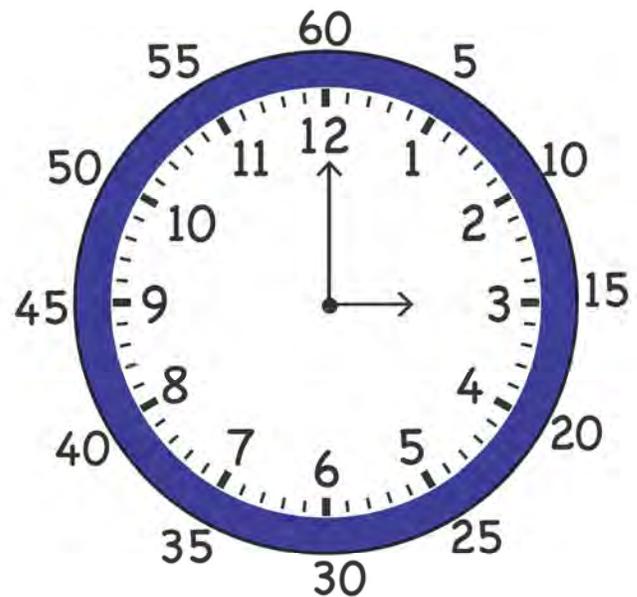
The shorter hand is the hour hand. It shows us the hours.



Each small marking on the clock stands for **1 minute**.

There are **60 markings** on the clock.

There are **60 minutes** in **1 hour**.

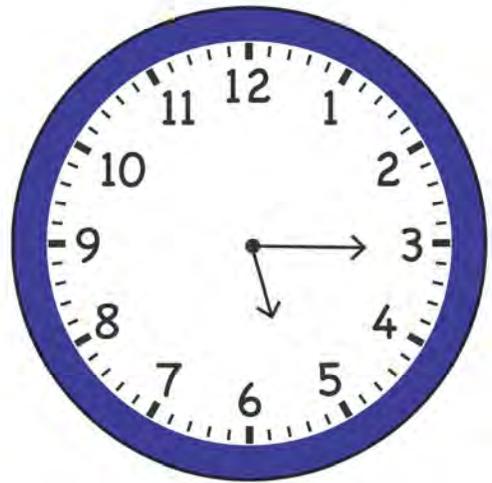


Look at this clock.

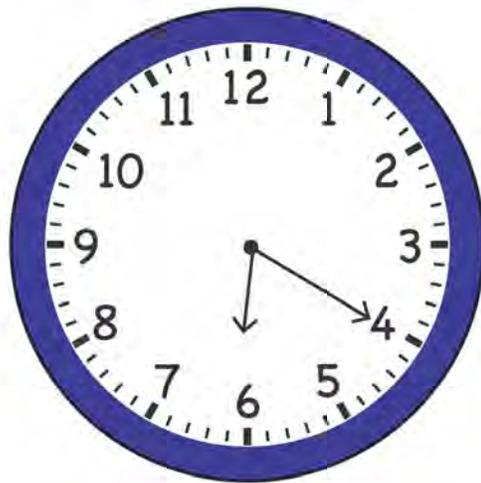
The **hour hand** is at 5.

The **minute hand** is at 3.

This means it is 15 minutes after 5 o'clock.



Look at this clock.



The hour hand is at 6. We write 6 on the left side.

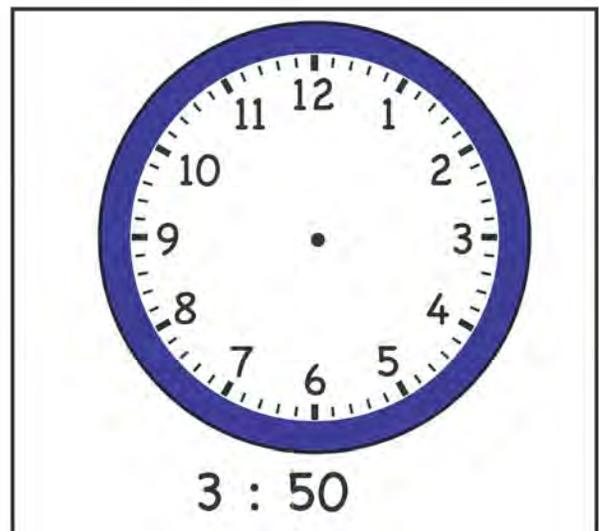
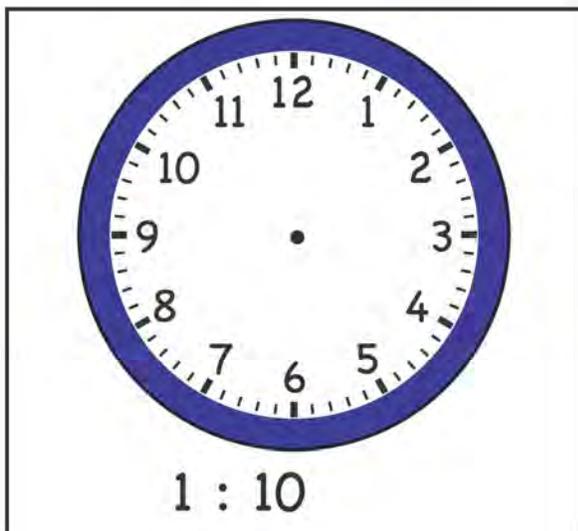
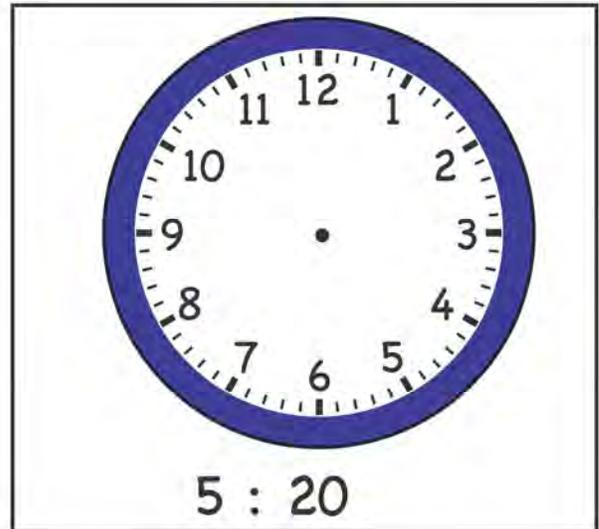
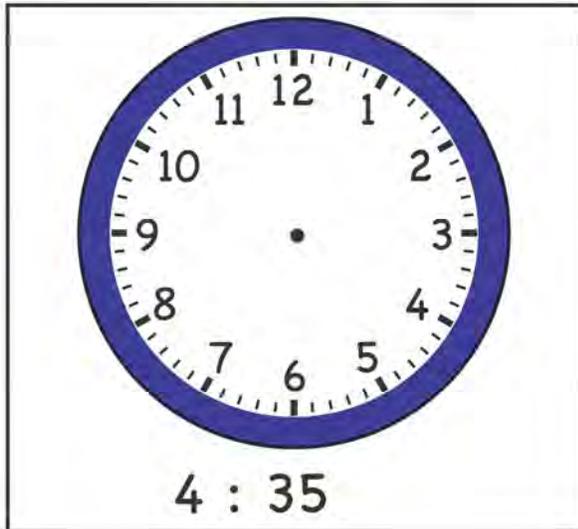
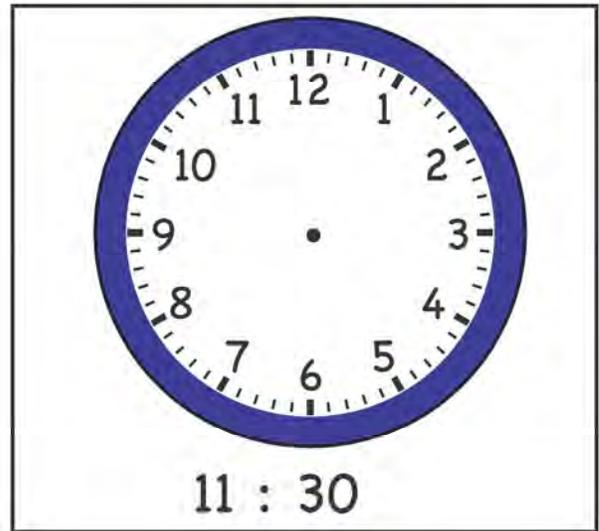
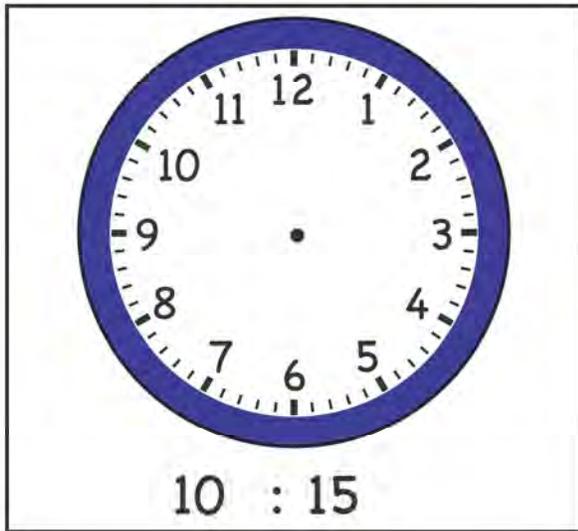
6 :

The minute hand is at 4. This means it is 20 minutes after 6 o'clock. We write 20 on the right hand side.

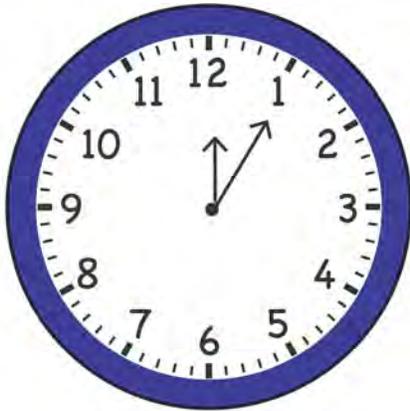
6 : 20

We read this as six twenty.

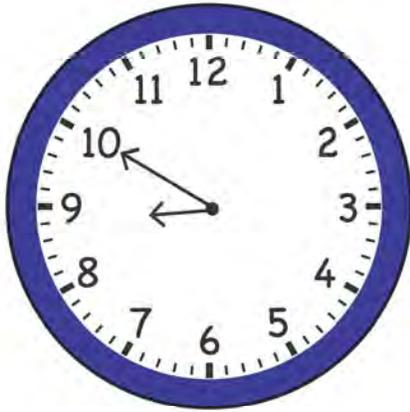
Read the time. Make hands on the clock.



Match the time with the correct clock.



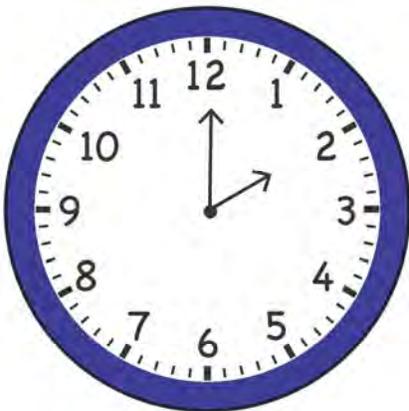
8 : 50



12 : 05



2 : 00



11 : 20

Hamza and Sana are
at the school.

The time is **8 a.m.**



We use **a.m.** to talk about time
just after 12 at night to just before
12 in the morning.



Hamza and Sana are
eating dinner.

The time is **8 p.m.**

We use **p.m.** to talk about time
just after 12 in the morning to just
before 12 at night.

Read the sentence and encircle the right option.

We go to school at 7 ____.

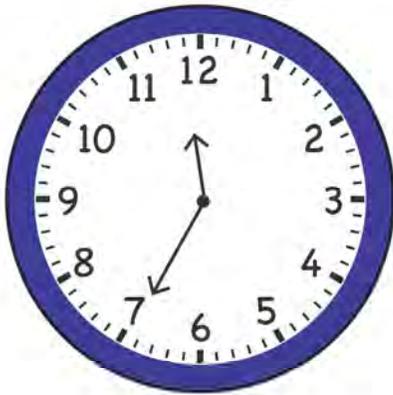
Sana eats her breakfast at 9 ____.

I go to sleep at 11 ____.

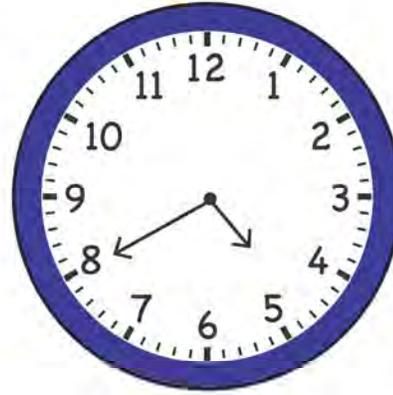
a.m.	p.m.
a.m.	p.m.
a.m.	p.m.

Look at the clock. Read the time of the day.
Write the time under each clock with a.m. and p.m.

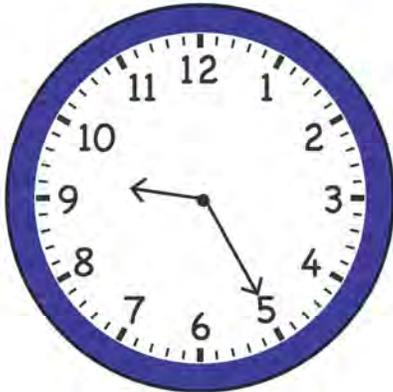
Morning



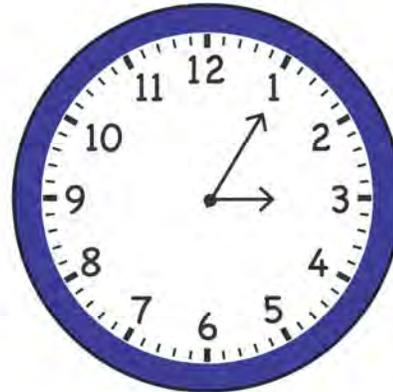
Night



Night



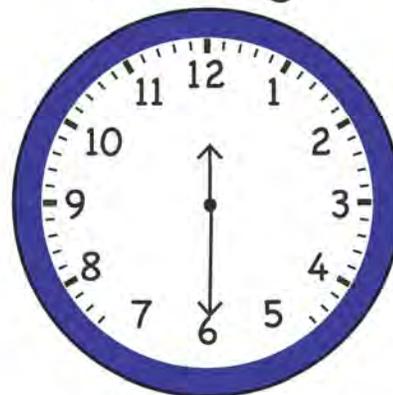
Morning



Night



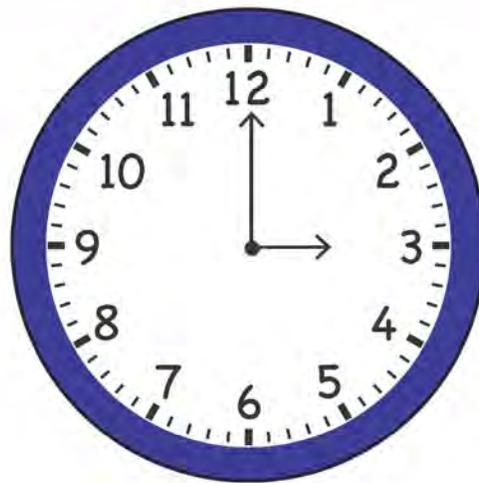
Morning



Look at the time.

It is 3 : 00.

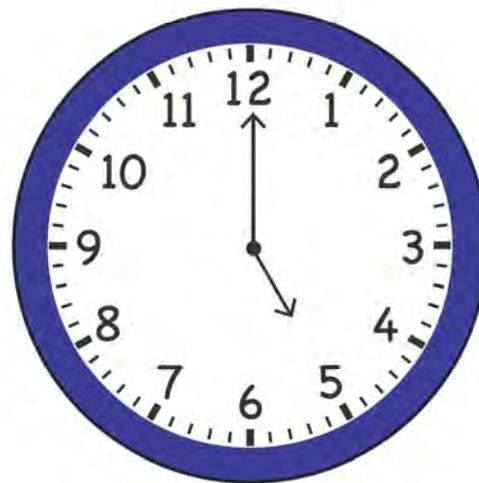
We say it is 3 o'clock.



What will be the time after 2 hours?

$$\begin{array}{r} 3 \\ + 2 \\ \hline 5 \end{array}$$

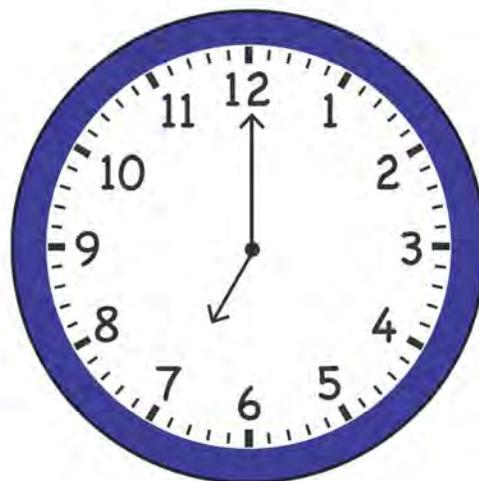
It will be 5 o'clock after 2 hours.



What will be the time after 2 more hours?

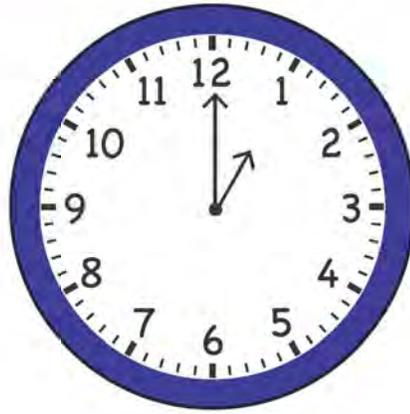
$$\begin{array}{r} 5 \\ + 2 \\ \hline 7 \end{array}$$

It will be 7 o'clock after 2 more hours.



Look at the time.

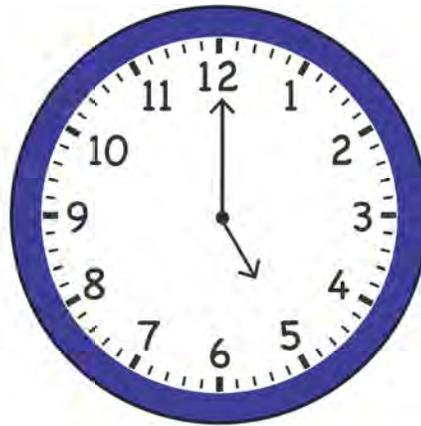
It is 1 o'clock.



What will be the time after 3 hours?

Look at the time.

It is 5 o'clock.



What will be the time after 1 hour?

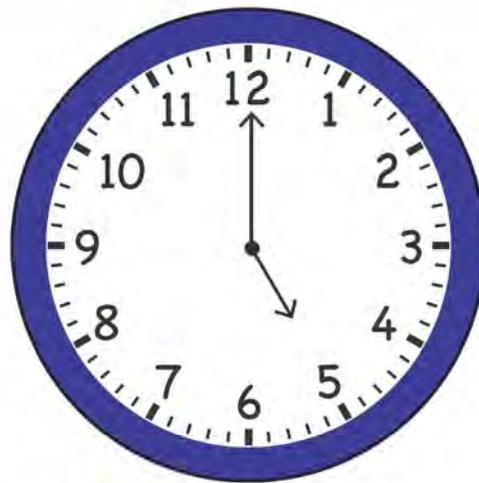
Ali left the house at 6 o'clock. He reached Islamabad after 5 hours. What was the time?

Anum started her homework at 2 o'clock. She finished it in 3 hours. What was the time then?

Look at the time.

It is 5 : 00.

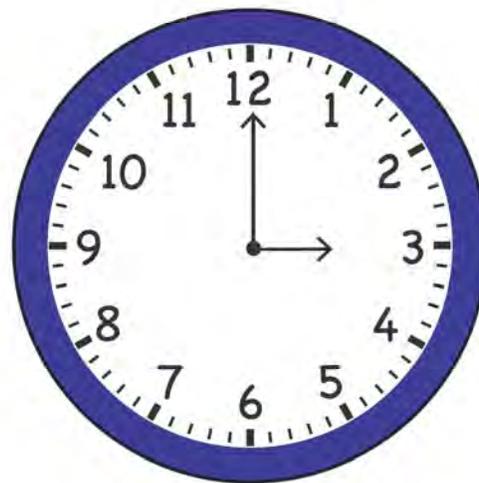
We say it is 5 o'clock.



What will be the time 2 hours before?

$$\begin{array}{r} 5 \\ - 2 \\ \hline 3 \end{array}$$

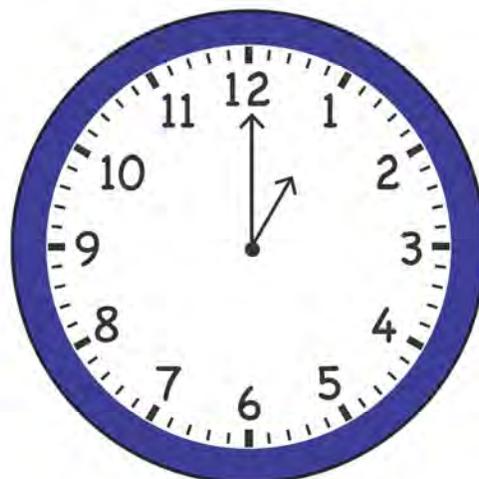
It will be 3 o'clock
2 hours before.



What will be the time 1 hour before 3 o'clock?

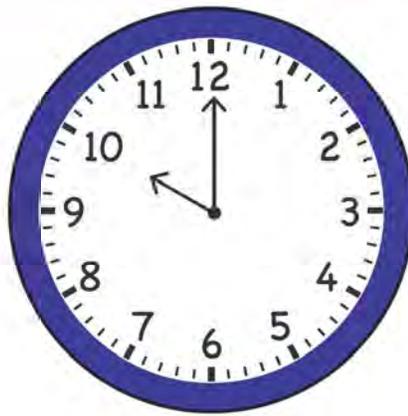
$$\begin{array}{r} 3 \\ - 1 \\ \hline 2 \end{array}$$

It will be 2 o'clock
1 hour before 3 o'clock.



Look at the time.

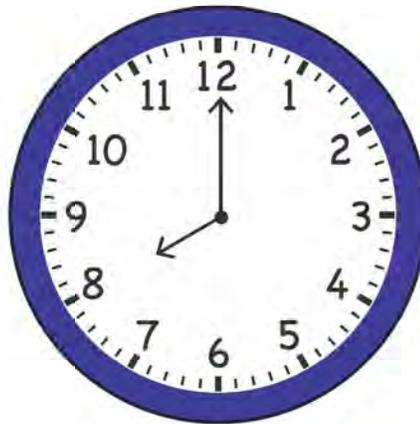
It is 10 o'clock.



What will be the time 3 hours before?

Look at the time.

It is 8 o'clock.



What will be the time 4 hours before?

It is 3 o'clock. Hassan started his homework 2 hours before. What was the time then?

It is 5 o'clock. Sana went to the market 3 hours before. What was the time then?



Shapes

This is a triangle. A triangle has three sides.



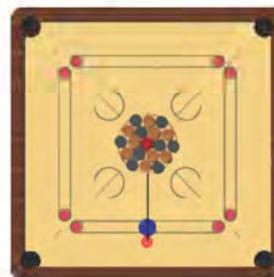
This is a rectangle. A rectangle has 2 equal sides.



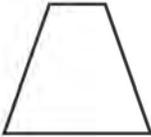
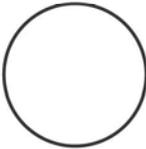
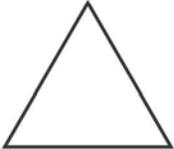
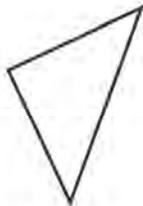
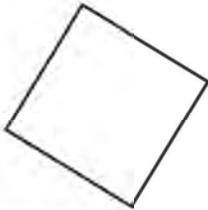
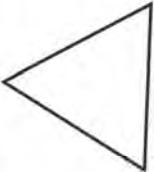
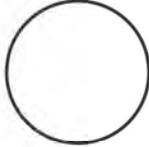
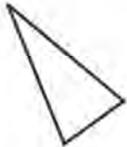
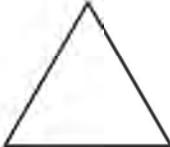
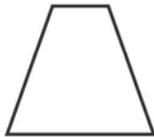
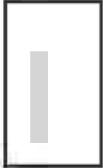
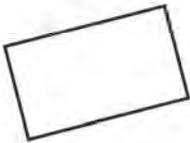
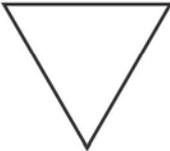
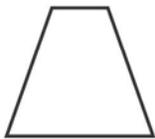
This is a circle. It has no side.



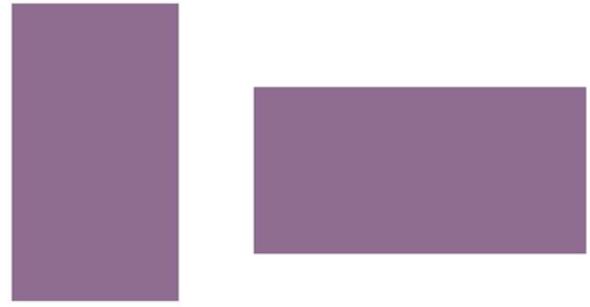
This is a square. A square has 4 equal sides.



Colour the shape that is like the one in the first column.

A rectangle has 4 sides.



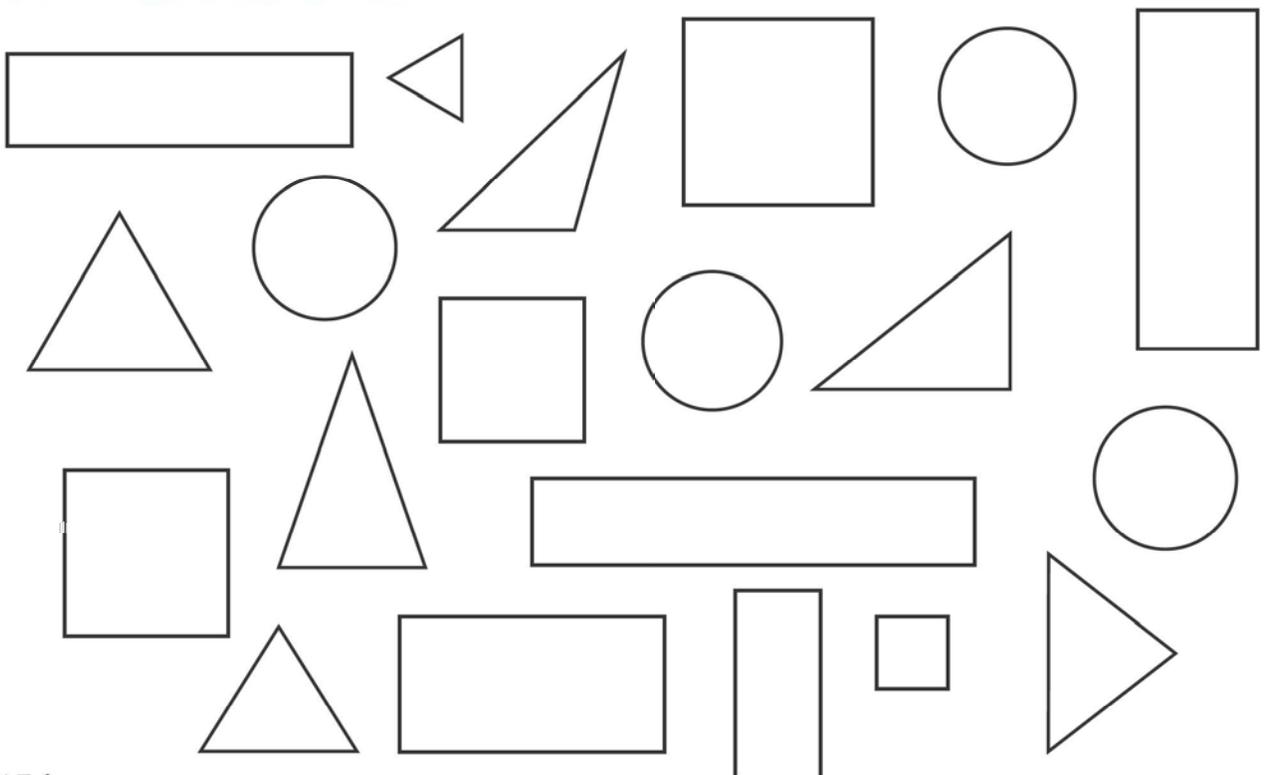
A square has 4 sides.



Both square and rectangle are **quadrilaterals**.

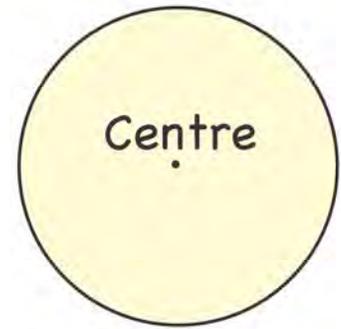
All quadrilaterals have **4 sides**.

Write 1 in all quadrilaterals, 2 in all triangles and 3 in all circles.



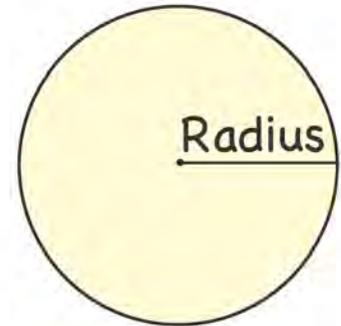
Look at this circle.

It has a centre.



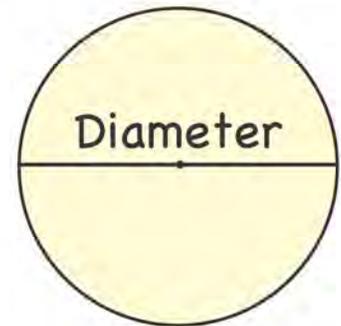
We can draw a line from the centre to a point on the circle.

This line is called the radius of the circle.

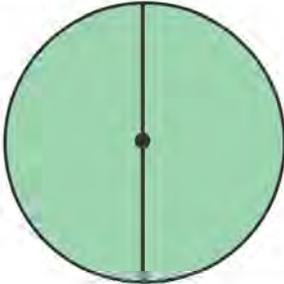


We can draw a line from one point on the circle to another point, through the centre.

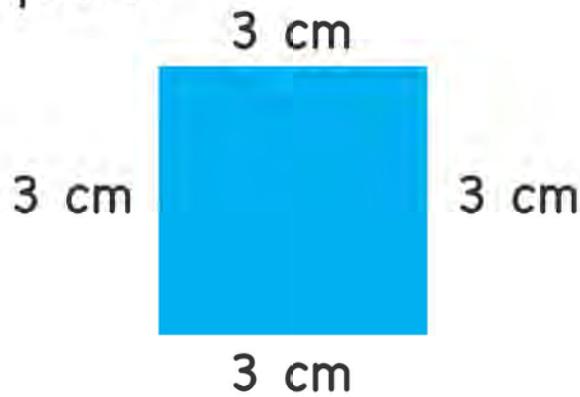
This line is called the diameter of the circle.



Look at the circle. Tell whether the line is of radius or diameter.

	Diameter	Radius
---	----------	--------

Look at this square.



Each side is 3 cm long.

What is the total length of the square?

$$3 \text{ cm} + 3 \text{ cm} + 3 \text{ cm} + 3 \text{ cm} = 12 \text{ cm}$$

The total length of the square is 12 cm.

This is called the **perimeter** of the square.

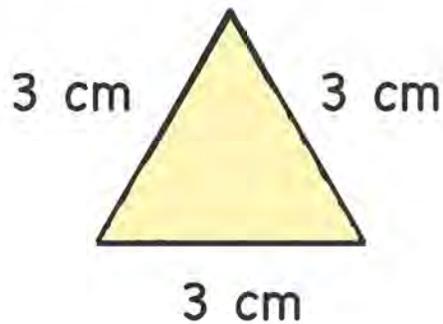
The **perimeter** of a figure is the total distance around all sides of the figure.

To find the perimeter:

Step 1 Look at the length of each side of the figure.

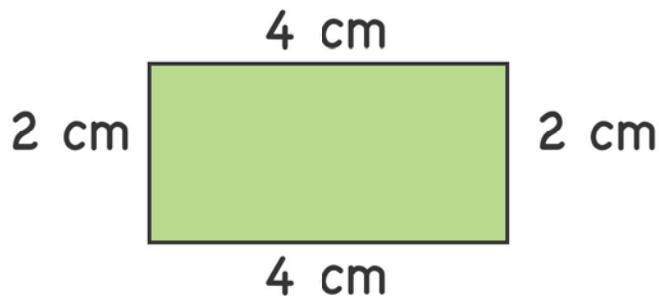
Step 2 Add all the lengths.

Find the perimeter of the triangle.



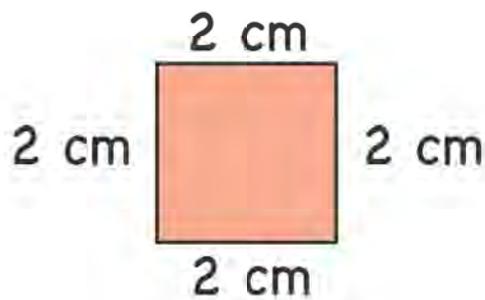
$$3 \text{ cm} + 3 \text{ cm} + 3 \text{ cm} = 12 \text{ cm}$$

Find the perimeter of the rectangle.



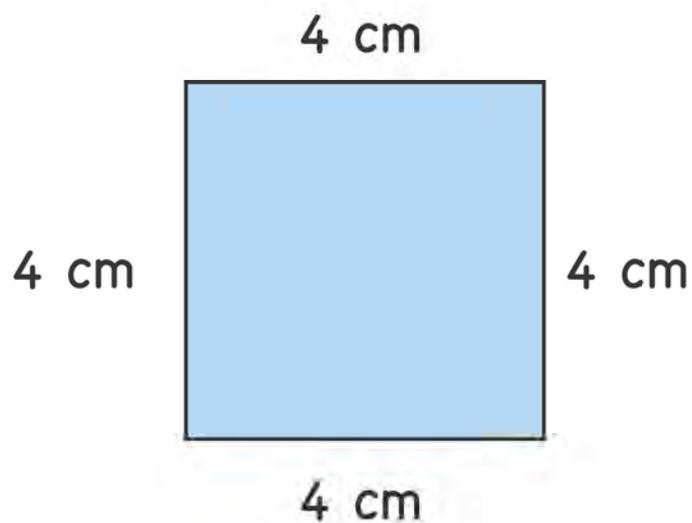
$$2 \text{ cm} + 2 \text{ cm} + 4 \text{ cm} + 4 \text{ cm} = 12 \text{ cm}$$

Find the perimeter of the square.

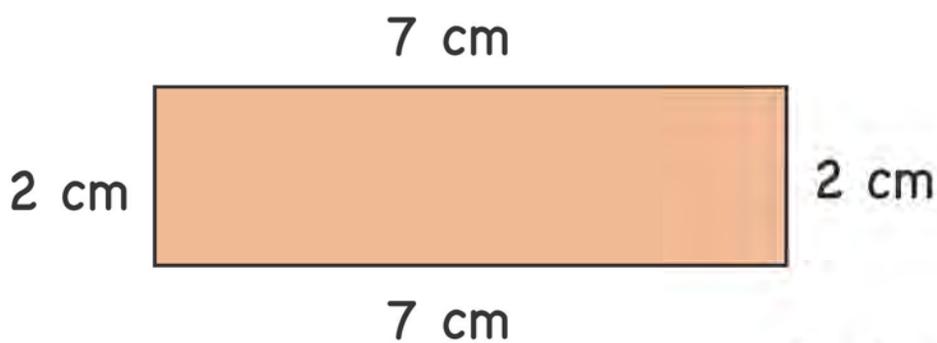


$$2 \text{ cm} + 2 \text{ cm} + 2 \text{ cm} + 2 \text{ cm} = 8 \text{ cm}$$

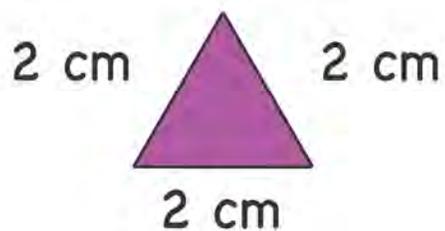
Read the length of each side of the figure. Find the perimeter.



Perimeter = _____



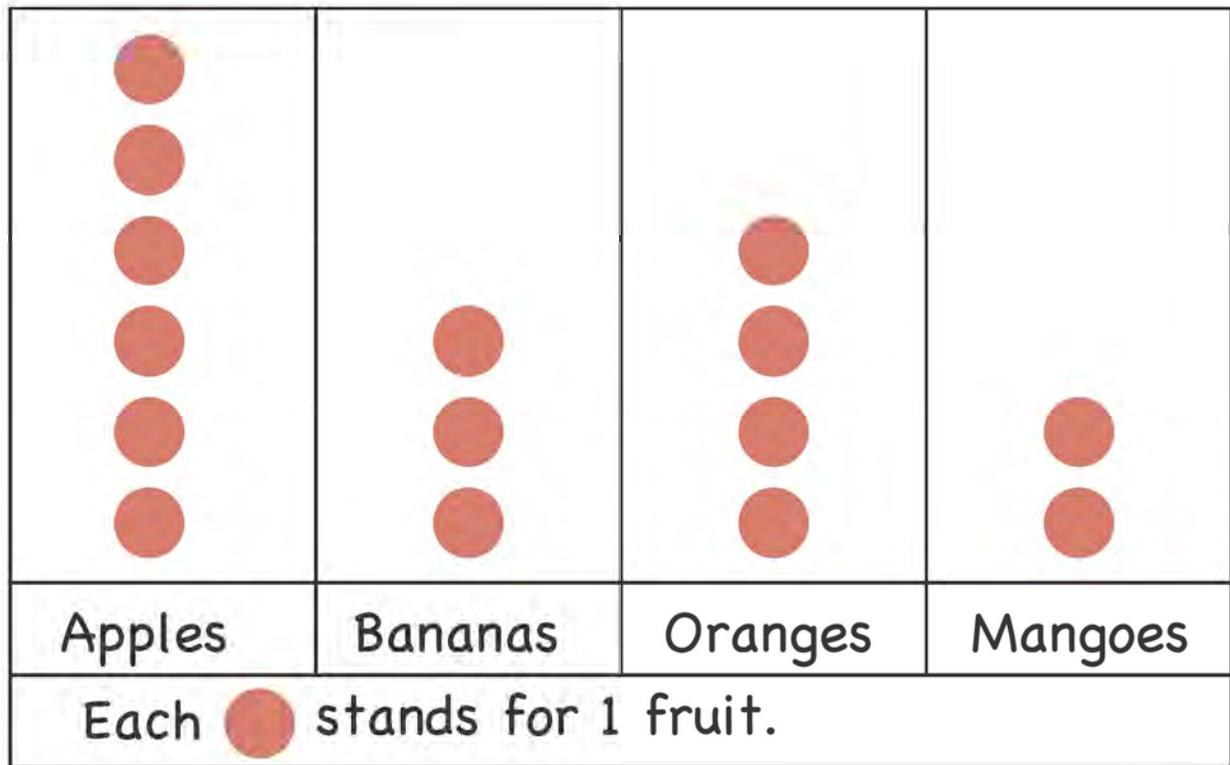
Perimeter = _____



Perimeter = _____

Picture graphs

Imran buys four types of fruits. He uses a picture graph to show the number of each type of fruit he has bought.



We can read the picture graph by counting the .

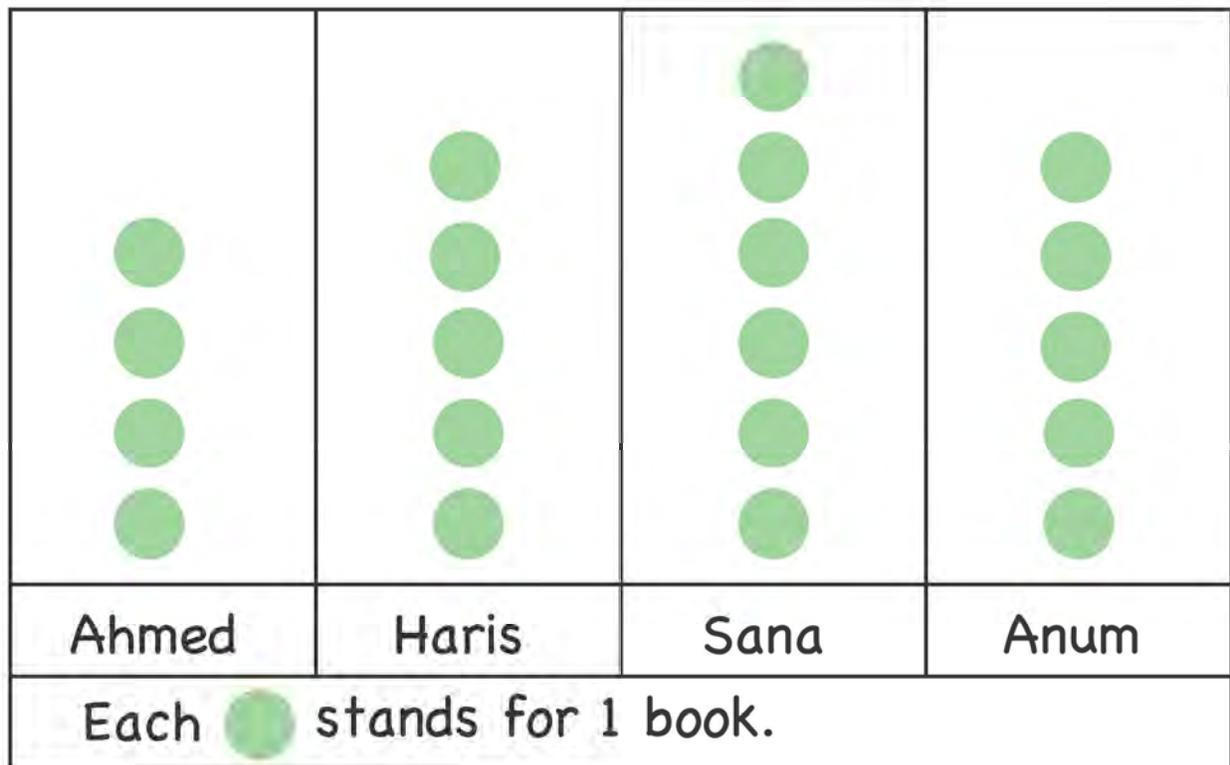
Apples: There are 6  so he buys 6 apples.

Bananas: There are 3  so he buys 3 bananas.

Oranges: There are 4  so he buys 4 oranges.

Mangoes: There are 2  so he buys 2 mangoes.

The picture graph below shows the number of books that each child has.



Read the picture graph by counting . Write the number of books that each child read.

Ahmed: _____

Haris: _____

Sana: _____

Anum: _____