

Coundon Primary School

Year 3 Maths Home Learning Pack 2

Week commencing 27.4.20



Year 3 – Home Learning Pack 2

Maths Lesson 1

Key Skill: I can write the time in 12 hour and 24 hour time.

Success Criteria

I can read an analogue clock.

I know there are 24 hours in a day.

I know what am and pm mean.

Starter

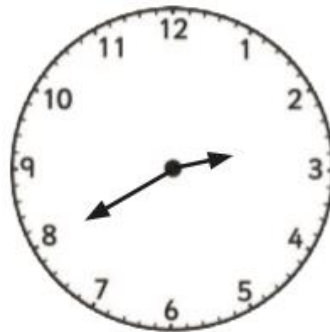
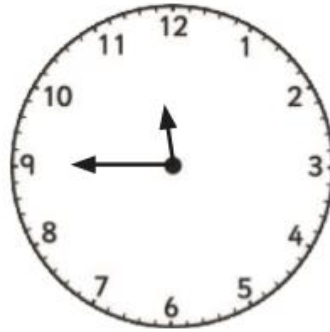
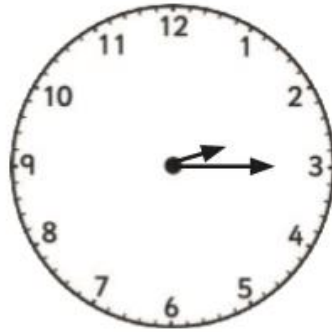
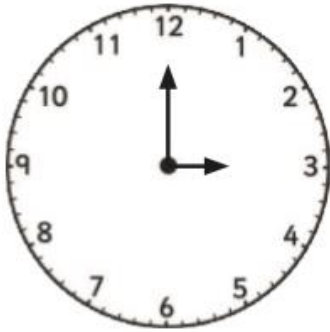
Have a go at recording the time shown on these clocks.

Remember

small hand = hours
long hand = minutes

If the minute hand is between 12 and 6 then we say past the hour.

If the minute hand is between 6 and 12 we say to the next hour.



Learning

After practicing telling the time on your analogue clock we would now like you to have a go at converting some times into 12 hour and 24 hour time

If this clock says 5'o clock in the morning, in **12 hour time** we would say 5:00am.

In **24 hour time** we would say 5:00.

am means before mid day

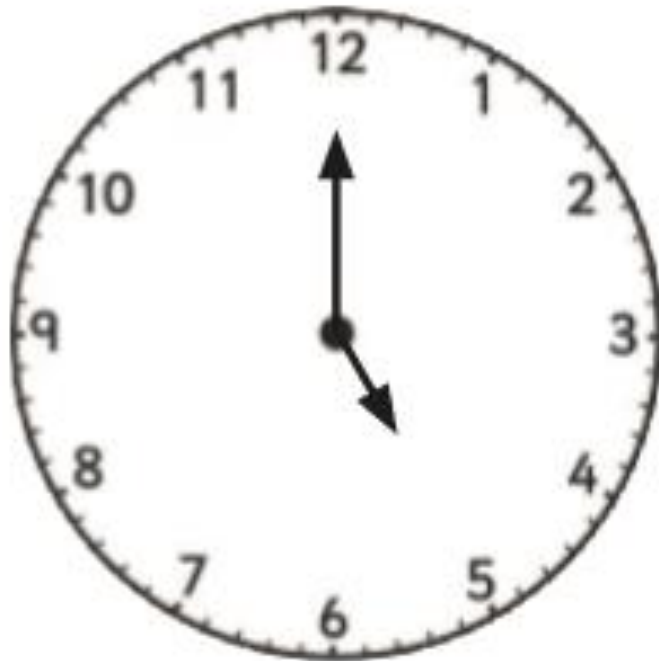
Midday is 12 o'clock (lunchtime).



Learning

If this clock says 5'o clock in the **afternoon**, in **12 hour time** we would say 5:00pm

pm means after mid day



In **24 hour time** we would say 17:00.

Remember, if the time is in the afternoon or evening we add the time on the clock to 12 as the hands have been around the clock 1 whole turn (12 hours).


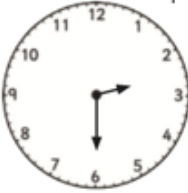










$$12 + 5 = 17$$

Independent Task

Complete the worksheet in your pack recording the times from each analogue clock, then write the times in 12 hour and 24 hour time.

Writing the Time

Record the times on each clock in both 12-hour time and 24-hour time. Use the am and pm near each clock to help you.

| | | | |
|---|---|---|---|
|  _____ |  _____ |  _____ |  _____ |
|  _____ |  _____ |  _____ |  _____ |
|  _____ |  _____ |  _____ |  _____ |

Plenary

Have a go at placing these times in order from earliest to latest.

3:00pm

2:35am

17:02

6:15

11 o'clock in the morning

14:20


23:15

Quarter past 4 in the afternoon

7:35am

8:12





Year 3 – Home Learning Pack 2

Maths Lesson 2

Key Skill: I can calculate durations.

Success Criteria

I know what duration means.

I know that I need to find the difference between two times.

I can count on using a number line.

Starter

Match the definitions of these words linked to time.

Hint – two of the words in red mean the same thing.

am

how long something lasts

midday

12 o'clock at night

duration

before midday

pm

after midday

noon

12 o'clock (lunchtime)

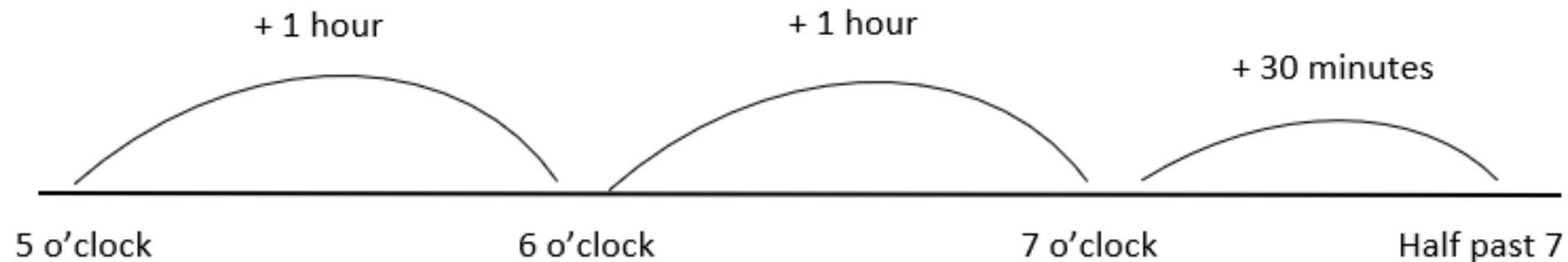
midnight

Learning

Duration means how long an event lasts.

If I start watching a programme at 5 o'clock and it finishes at half past 7, it lasted 2 hours and 30 minutes.

To find out the duration I can count on to find the difference.

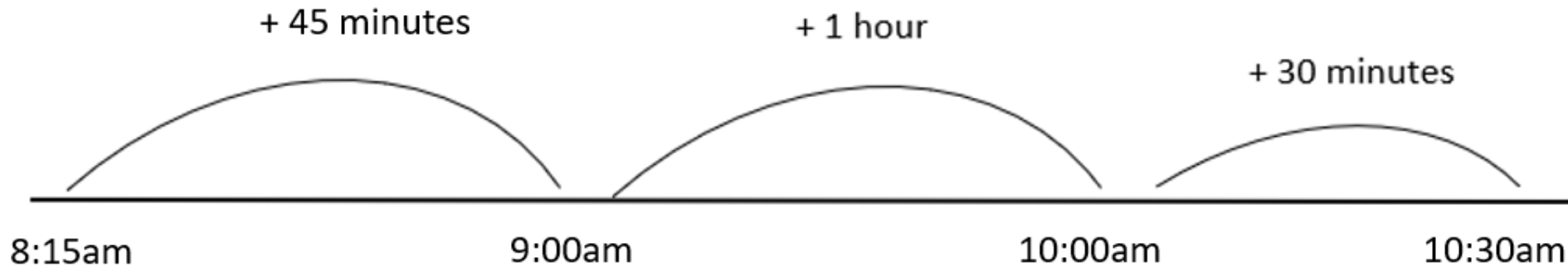


Learning

Steps to success for finding the difference using a number line.

1. Place the earliest time at the start of the number line.
2. Place the latest time at the end of the number line.
3. Count on in jumps and record the amount at the top of your jumps.

Hint – count on to the nearest hour and then in hours and then minutes again.



$45 + 30 = 75$ minutes.

75 minutes = 1 hour and 15 minutes

1 hour + 1 hour and 15 minutes = 2 hours and 15 minutes.

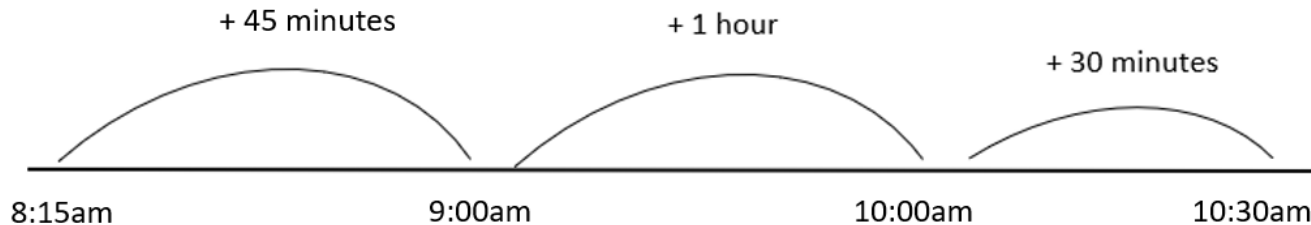
Remember there are 60 minutes in 1 hour.

Independent Task

Steps to success for finding the difference using a number line.

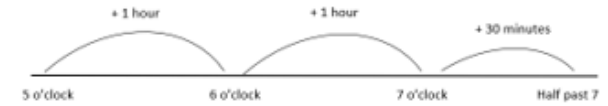
1. Place the earliest time at the start of the number line.
2. Place the latest time at the end of the number line.
3. Count on in jumps and record the amount at the top of your jumps.





Moons and Stars – Question 4 you need to count back instead of counting on.



Time Duration

Record your answers to these questions including your working out in your exercise book.



| | |
|--|--|
|  |  |
| 1. Harry Potter started at 4 o'clock and finished at 8 o'clock. How long did it last? | 1. Boss Baby started at 4:00pm and finished at 7:20pm. How long did it last? |
| 2. Spiderman started at 2 o'clock and finished at 5 o'clock. How long did it last? | 2. Frozen started at 2:00pm and finished at 6:13pm. How long did it last? |
| 3. I woke up at 7:00 am and went to bed at 9:00pm. How long was I awake for? | 3. I woke up at 6:00 am and went to bed at 6:45pm. How long was I awake for? |
| 4. I went for a walk at 11:00 am and came home at 1:00pm. How long was I walking for? | 4. I went for a walk at 12:10 pm and came home at 1:20pm. How long was I walking for? |
|  |  |
| 1. Trolls started at 14:00 and finished at 17:32pm. How long did it last? | 1. The Lion King started at 16:24 and finished at 6:31pm. How long did it last? |
| 2. Peter Pan started at 13:00 and finished at 15:43. How long did it last? | 2. Star Wars started at 14:06 and finished at 17:23. How long did it last? |
| 3. I woke up at 8:30am and went to bed at 18:00. How long was I awake for? | 3. I woke up at 5:23am and went to bed at 19:49. How long was I awake for? |
| 4. I went for a walk at 1:05pm, my walk lasted 67 minutes. When did I get home from my walk? | 4. I went for a walk at 12:06, my walk lasted 132 minutes. When did I get home from my walk? |


When you are finished record a diary for the day, making sure you note when you start and finish an activity. Can you work out how long each of your activities have lasted?

Plenary

If I have to be at work for 8:40am and it takes me 53 minutes on the bus to get there. Which bus should I take? A, B, or C and why?

- a) 7:15am
- b) 8:10am
- c) 7:47am





Year 3 – Home Learning Pack 2

Maths Lesson 3

Key Skill: I can solve problems involving duration.

Success Criteria

I can read and understand what the question is asking me.

I can identify which operation I am using (subtraction or addition)

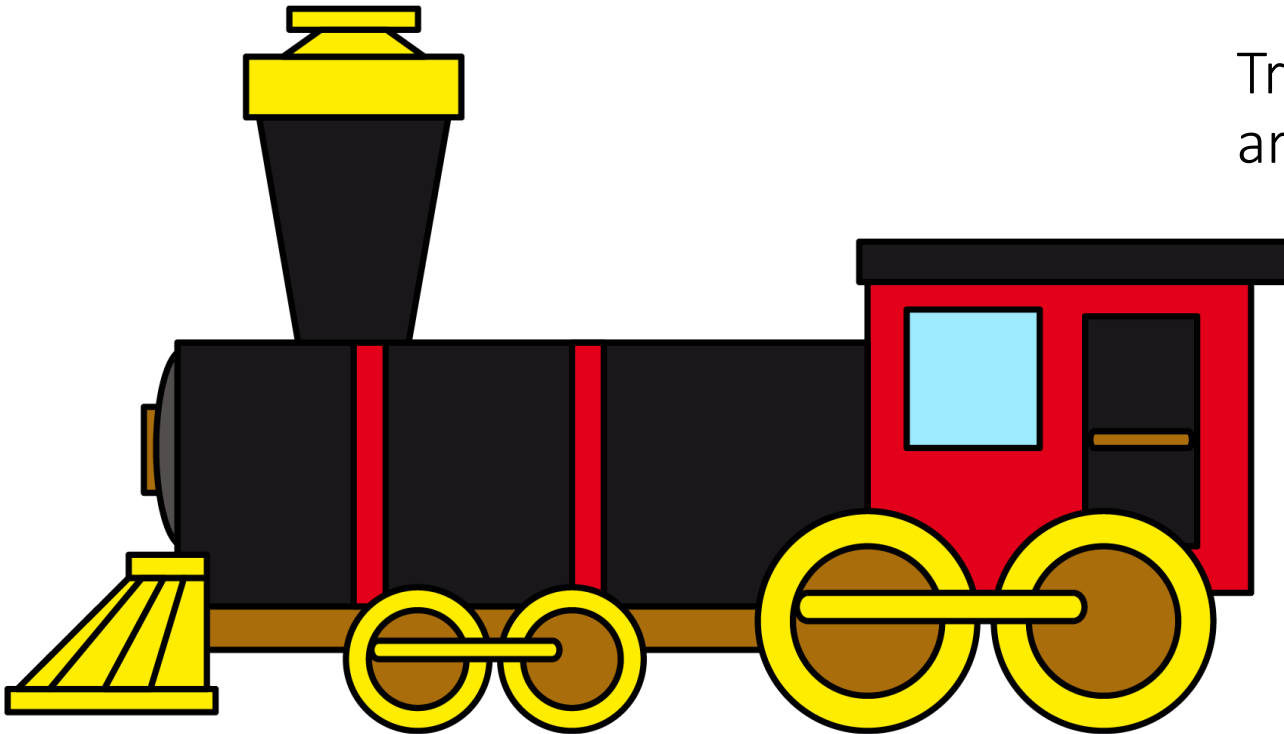
I can choose an appropriate method.

I can answer my question explaining my reasoning.

Starter

Which train journey takes the longest?

How do you know?



Train A leaves Cardiff Station at 8:40 am and arrives at 9:10am.

Train B leaves Birmingham Station at 7:12pm and arrives at Manchester at 8:02pm.

Train C leaves Oxford Station at 13:05 and arrives at Canterbury at 15:36.

Learning

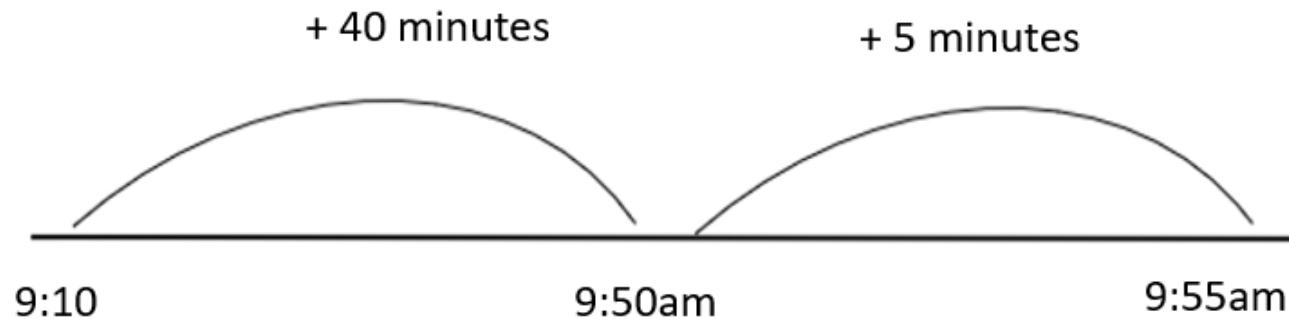
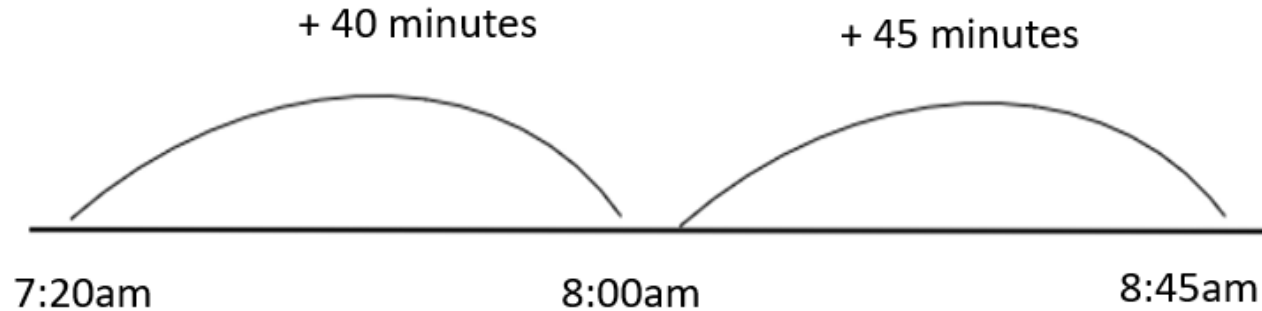
Remember duration means how long an event lasts.

Rosie started running at 7:20 a.m. and stopped at 8:45 a.m.

Rosie ran for ____ minutes.

Tommy started running at 09:10 and stopped at 09:55

Tommy ran for ____ minutes.



Use my number lines to work out the durations of Rosie and Tommy's runs.

Learning

Are the statements true or false?

| Club | Start | Finish |
|----------|-------|--------|
| Art | 15:10 | 16:00 |
| Rugby | 15:05 | 15:50 |
| Homework | 15:10 | 16:10 |
| Tennis | 15:00 | 16:05 |

Art club is longer than homework club.

Rugby club is shorter than tennis club.

Erika reads for 35 minutes. Circle when she read.

9:30 – 10:00

19:25 – 19:55

18:20 – 18:55

10:45 – 11:25

Have a go at solving these two varied fluency problems involving duration. The answers are on the next slide for you to check your work.

Learning

Are the statements true or false?

| Club | Start | Finish |
|----------|-------|--------|
| Art | 15:10 | 16:00 |
| Rugby | 15:05 | 15:50 |
| Homework | 15:10 | 16:10 |
| Tennis | 15:00 | 16:05 |

Art club is longer than homework club.

False

Rugby club is shorter than tennis club.

True

Erika reads for 35 minutes. Circle when she read.

9:30 – 10:00

19:25 – 19:55

18:20 – 18:55

10:45 – 11:25

Answers to the previous two questions.

Independent Task

Now have a go at working through your level of challenge on your time durations lesson 3 worksheet.

Remember your steps to success.

1. I can read and understand what the question is asking me.
2. I can identify which operation I am using (subtraction or addition)
3. I can choose an appropriate method.
4. I can answer my question explaining my reasoning.

Year 3 Maths Learning Pack 2 – Lesson 3

Time Duration - Clouds

1a. Are the statements true or false?

| Club | Start | Finish |
|----------|--------|--------|
| Art | 3:20pm | 3:50pm |
| Rugby | 3:00pm | 3:40pm |
| Homework | 3:20pm | 4:00pm |
| Tennis | 3:10pm | 4:20pm |

Tennis club is longer than rugby club.
Art club is shorter than homework club.

1b. Are the statements true or false?

| Club | Start | Finish |
|----------|--------|--------|
| Maths | 3:10pm | 4:10pm |
| Craft | 3:00pm | 4:00pm |
| Knitting | 3:20pm | 3:40pm |
| Hockey | 3:10pm | 4:00pm |

Hockey club is longer than maths club.
Knitting club is shorter than craft club.

2a. George reads for 50 minutes. Circle when he read.

6:10 – 6:50 7:30 – 8:10

4:40 – 5:20 7:20 – 8:10

2b. Karina swims for 40 minutes. Circle when she swam.

10:00 – 10:30 10:20 – 11:10

Year 3 Maths Learning Pack 2 – Lesson 3

Time Duration – Stars

3a. Circle the show which is the longest.

| | |
|------------------------------|----------------------------|
| Upton Abbey 9:10 – 10:00 | Westenders 7:20 – 8:30 |
| Jeremy Carl 10:50 – 11:30 | Planet Mars 8:00 – 9:00 |

4a. Which train takes the longest?

| | Departs | Arrives |
|-----------|---------|---------|
| Leeds | 2:50pm | 4:20pm |
| Hallifax | 6:10pm | 7:00pm |
| Liverpool | 8:30am | 10:40am |
| London | 1:50pm | 2:40pm |

Time Duration – Stars

9a. Are the statements true or false?

| Club | Start | Finish |
|----------|-------|--------|
| Art | 15:01 | 15:57 |
| Rugby | 15:05 | 16:02 |
| Homework | 15:09 | 16:00 |
| Tennis | 15:14 | 15:46 |

Art club is longer than homework club.
Rugby club is shorter than tennis club.

9b. Are the statements true or false?

| Club | Start | Finish |
|---------|-------|--------|
| Cooking | 12:01 | 12:35 |
| Craft | 12:00 | 13:05 |
| Maths | 12:07 | 12:59 |
| Hockey | 12:15 | 13:03 |

Cooking club is longer than maths club.
Hockey club is shorter than craft club.

10a. Makai reads for 41 minutes. Circle when he read.

8:56 – 10:06 9:14 – 9:58

16:23 – 17:17 20:56 – 21:37

10b. Khloe swims for 62 minutes. Circle when she swam.

16:47 – 17:50 10:29 – 11:01

11:23 – 12:25 11:23 – 12:24

11a. Circle the show which is the longest.

| | |
|------------------------------|------------------------------|
| Upton Abbey 20:02 – 20:59 | Westenders 19:32 – 20:04 |
| Jeremy Carl 10:34 – 11:28 | Planet Mars 21:32 – 22:39 |

11b. Circle the show which is the shortest.

| | |
|------------------------------|-----------------------------|
| Bottom Gear 18:02 – 18:47 | Ivyorks 16:35 – 17:35 |
| Doctor When 19:05 – 20:06 | Big Sister 22:47 – 23:57 |

12a. Which train takes the longest?

| | Departs | Arrives |
|-----------|---------|---------|
| Leeds | 12:36 | 12:57 |
| Hallifax | 13:57 | 15:42 |
| Liverpool | 16:02 | 17:34 |
| London | 19:23 | 20:46 |

12b. Which train takes the longest?

| | Departs | Arrives |
|-----------|---------|---------|
| Leeds | 9:45 | 11:06 |
| Hallifax | 12:23 | 13:00 |
| Liverpool | 13:56 | 14:11 |
| London | 16:34 | 17:21 |

Year 3 Maths Learning Pack 2 – Lesson 3

Time Duration – Moons

5a. Are the statements true or false?

| Club | Start | Finish |
|----------|-------|--------|
| Art | 15:05 | 15:50 |
| Rugby | 15:15 | 15:55 |
| Homework | 15:20 | 16:10 |
| Tennis | 15:10 | 16:05 |

Art club is longer than homework club.
Rugby club is shorter than tennis club.

5b. Are the statements true or false?

| Club | Start | Finish |
|---------|-------|--------|
| Cooking | 3:10 | 4:10 |
| Craft | 3:05 | 4:00 |
| Maths | 3:05 | 3:45 |
| Hockey | 3:15 | 4:00 |

Cooking club is longer than maths club.
Hockey club is shorter than craft club.

6a. Emilio reads for 45 minutes. Circle when he read.

6:10 – 7:00 19:30 – 20:15

6b. Salma swims for 55 minutes. Circle when she swam.

12:05 – 12:30 10:20 – 11:10

8:25 – 9:20 13:55 – 14:55

7. Circle the show which is the shortest.

| | |
|----------------------------|-----------------------------|
| Bottom Gear 8:05 – 8:40 | Ivyorks 17:55 – 18:20 |
| Doctor When 7:30 – 8:10 | Big Sister 21:10 – 22:00 |

8. Which train takes the longest?

| | Departs | Arrives |
|-----------|---------|---------|
| Leeds | 7:35 | 8:15 |
| Hallifax | 15:50 | 16:20 |
| Liverpool | 10:25 | 11:35 |
| London | 9:10 | 10:50 |

Plenary

Be the teacher

Write your own true or false question involving duration for your parent to solve.


For example

The bus arrived at 20:30 and left at 18:45.

The journey took 1 hour and 15 minutes.

True or false?





Year 3 – Home Learning Pack 2

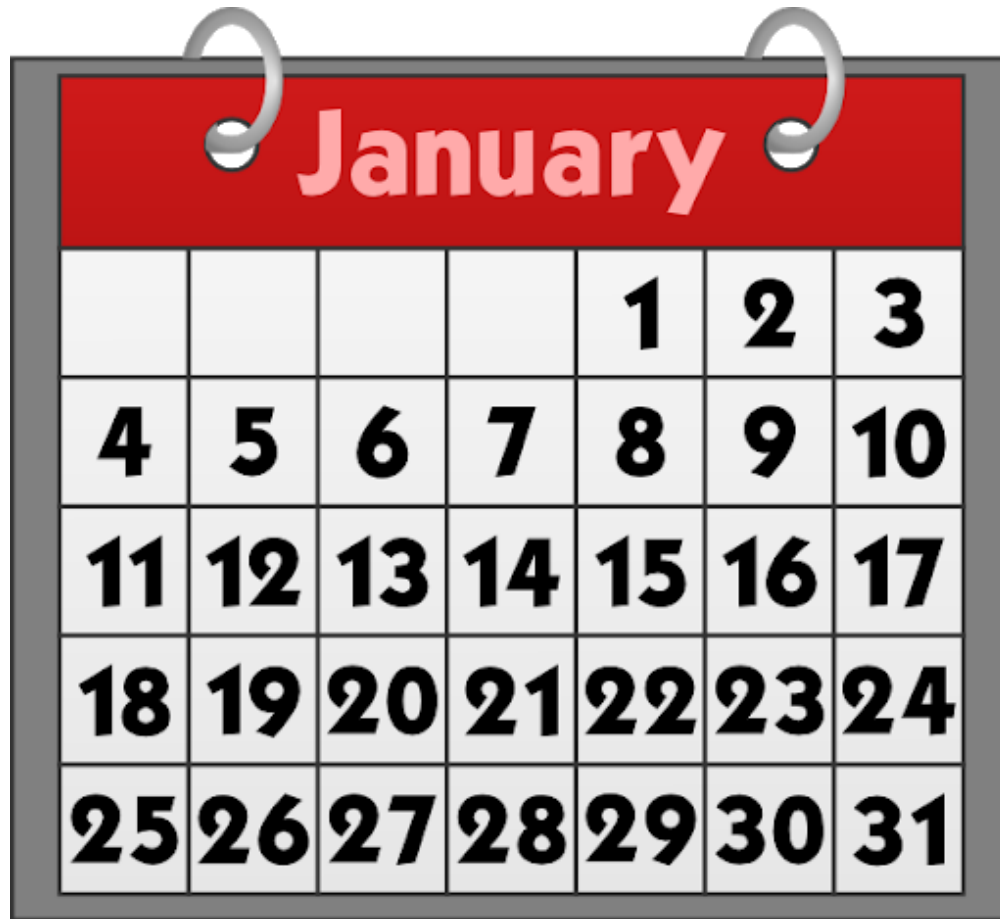
Maths Lesson 4

Key Skill: I can recall various facts
about time.

Success Criteria

I can recall the number of seconds in a minute, minutes in an hour and hours in a day.

I can recall the number of days in a month, year and leap year.



Starter

Speak with your parent – Can they tell you how many days are in each month of the year?

Record these in your exercise book.

Watch this video to see if they were right.

<https://www.youtube.com/watch?v=BYshA2ybFdY>

There are _____ days in a whole week.
There are _____ days in a school week.
There are _____ hours in a day.
There are _____ hours in a school day.

Learning

Use these numbers to help you fill in the missing numbers in these sentences.

You might need to ask a grown up to help you if you get stuck.

Remember school starts at 8:40 and finishes at 3:20.

Check your answers on the next slide.

There are 7 days in a whole week.
There are 5 days in a school week.
There are 24 hours in a day.
There are 6 full hours in a school day.
And 40 minutes

Learning

Were you correct?

Independent Task

There are 60 seconds in a minute.

There are 60 minutes in an hour.

There are 24 hours in a day.

With the help of your parent, see if you can estimate how long 1 minute is.

Sit on a chair and ask your parents to start a stopwatch, stand up when you think it has been 1 minute. Check the stopwatch, were you accurate?

Test the people in your house, are they more or less accurate than you at estimating a minute?

Challenge

How many star jumps can you do in 1 minute?

How many pages can you read in an hour?

How many cups of tea do your parents drink in a day?

Use the numbers to fill in the gaps in the sentences.

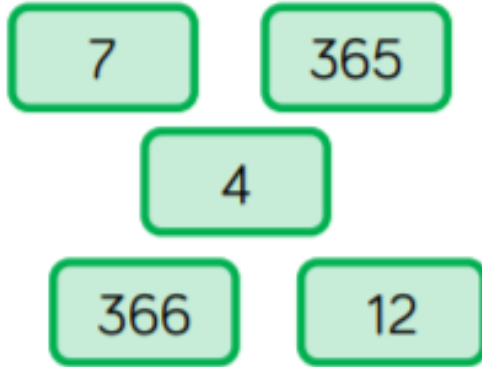
There are _____ days in a year.

There are _____ months in a year.

There are _____ days in a leap year.

There are _____ days in a week.

Leap years happen every _____ years.



Learning

Use these numbers to help you fill in the missing numbers in these sentences.

You might need to ask a grown up to help you if you get stuck.

Check your answers on the next slide.

There are days in a year.

There are months in a year.

There are days in a leap year.

There are days in a week.

Leap years happen every years.

Learning

Were you correct?

Independent Task

Talk to the people in your house and record any significant dates in your exercise book.

These might include:

1. Birthdays
2. Anniversaries
3. Holidays
4. Celebrations (Christmas, Easter, Eid, Ramadan, Passover, Diwali, etc...)

When you have collected these dates, put them in order from the earliest date to latest date in the year.

Challenge

Create a calendar for you house so that none of these important dates are forgotten.

| JANUARY 2020 | | | | | | |
|--------------|--------|----------------------------|-----------|--|--------|----------|
| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
| 29 | 30 | 31 | 1 | 2 Ben's 9 th Birthday | 3 | 4 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 Holiday to France | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | 31 | 1 |




Mo

I get up at 7 o'clock in the morning and go to bed at 7 o'clock at night. This means I have been awake for a full day.

Do you agree with Mo?
Explain your answer.

Plenary

Use your knowledge of hours in a day to help you solve this question.



Year 3 – Home Learning Pack 2

Maths Lesson 5

Key Skill: I can recap what I have learnt
about time so far.

*You will need to record these answers in
your exercise book.*

*[Question 3 and question 8 you will need
to discuss with your parents rather than
recording.]*

*If you have access to a printer you can
print the slides and record your answers
in the box if you prefer.*



The Circus is Coming to Town!

You are the Ringmaster from the
Moonlight Circus

You are planning a national tour of all the
major cities across the United Kingdom.

1. The circus will visit 2 cities per month, what is the
maximum number of cities they can visit in a year?

Remember there are 12 months in a year.

A message arrives about the performers' holidays. Read the email below:



2. How many weeks do you have left to perform the circus this year?

Remember there are 52 weeks in a year.



Using the calendar below, plan the first 3 months of the tour. It takes 3 days to set up the tents, the circus runs for 1 week in each city.

You will need 2 days to pack the equipment away again and then 1 day to travel between cities.

3. How could you plan six cities of the tour? Leeds has been done for you.

| | |
|-----------------|-------------------|
| <i>Leeds</i> ✓ | <i>Manchester</i> |
| <i>Belfast</i> | <i>Cardiff</i> |
| <i>Aberdeen</i> | <i>Bristol</i> |

| | M | T | W | T | F | Sa | Su |
|------|----|----|----|---------|----|----|----|
| July | 1 | 2 | 3 | ← Leeds | 5 | 6 | 7 |
| | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| | 29 | 30 | 31 | 1 | 2 | 3 | 4 |

| | M | T | W | T | F | Sa | Su |
|--------|----|----|----|----|----|----|----|
| August | 29 | 30 | 31 | 1 | 2 | 3 | 4 |
| | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| | 26 | 27 | 28 | 29 | 30 | 31 | 1 |

| | M | T | W | T | F | Sa | Su |
|-----------|----|----|----|----|----|----|----|
| September | 26 | 27 | 28 | 29 | 30 | 31 | 1 |
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| | 23 | 24 | 25 | 26 | 27 | 28 | 29 |

The tickets for the following six cities need preparing for the printers.

4. The dates need to be added to each of these tickets for the final performance.

Glasgow: Arrive 20th September



Newcastle: Arrive 3rd October



Remember when you record the short date at school, you put the day number first.

20.

Cardiff: Arrive 11th November



Portsmouth: Arrive 8th December



Then you record the month number.

20.09.

Edinburgh: Arrive 14th January



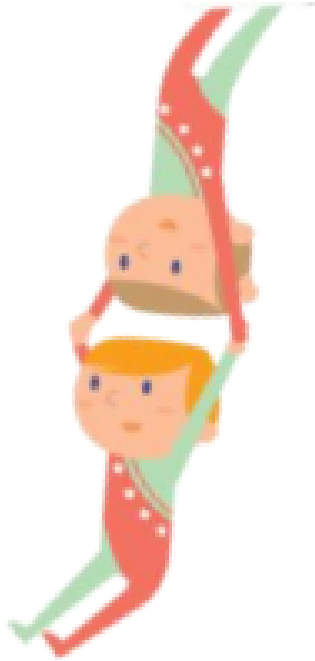
London: Arrive 23rd February



Then you record the year number.

20.09.20

Edinburgh is in January, after Portsmouth, so will be the following year.



One of your acrobats has an injury and will need an operation on 25th April, she'll be on rest and recovery for 15 days after the operation.

5. What date will she return to work?

Remember there are 30 days in April.



To create a magical atmosphere, the Moonlight Circus begins 60 minutes after sunset. Local councils have said you need to finish your performances by midnight.

6. Why will summer be a challenge?

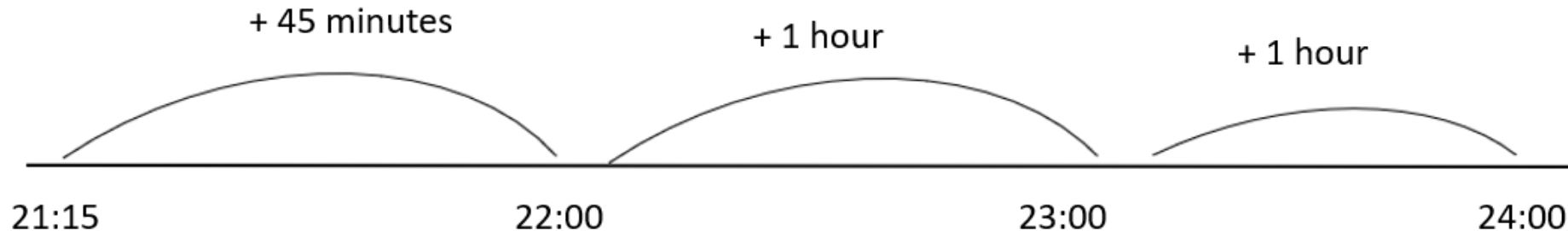
Do you go to bed when it is light or dark in the summer?

The sunset times for some of the cities you will visit are in the table below.

7. Calculate how long your show can be on each evening.

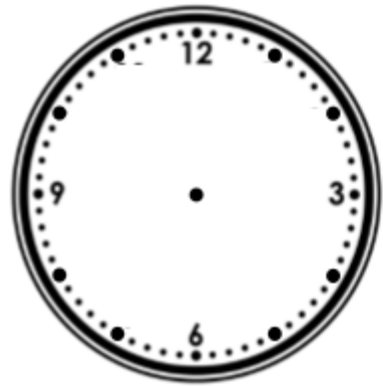
| City | Sunset | Show begins | Maximum Show Duration |
|-----------|--------|-------------|-----------------------|
| Leeds | 21:15 | | |
| Edinburgh | 17:35 | | |
| Aberdeen | 20:45 | | |
| London | 15:15 | | |

Use a number line to count on from the given times until midnight which is 00:00 or (24:00)

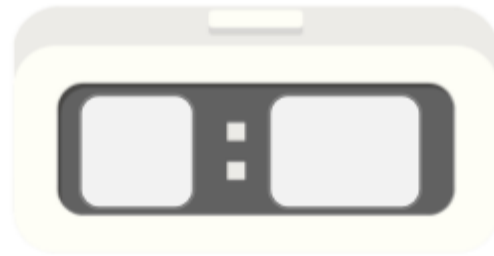


The stars of the circus need to know when their part of the show begins. Each dressing room has a different type of clock.

8. Set the clocks to show what time the performers are due on stage.



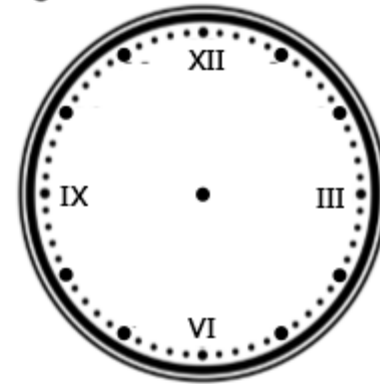
half past 7



17 minutes to 6



18 minutes past 8
(hint use 24 hour clock)



24 minutes past 10



When using the 24 clock remember if the event is in the evening or afternoon you add 12 to your hours.

It's time for the dress rehearsal!

Half way through, the clowns (who are in the dressing room that has the 24 hour clock) want to know how long until they are on stage. You check your watch....

9. How long is it until they are due on stage?



Suddenly, an elephant runs past and knocks you over. Oh no! Dust your self down and take a glance at your watch.

AAAARRRGH!
The screen is smashed.

10. What time could it be?
Explain how you know.



This is when the clowns are due on stage.



18 minutes past 8
(hint use 24 hour clock)

Don't forget to use your number line to count on.

Remember the long hand is the minute hand and you can just see this poking out from the broken glass.

You are expecting deliveries at the Big Top head office and you need to know when to expect them.

11. Tick the correct column to show whether the time is a.m. or p.m.

| Items Ordered | Delivery time | a.m. | p.m. |
|----------------|---------------|------|------|
| balloons | 09:35 | | |
| feathers | 11:57 | | |
| sawdust | 20:34 | | |
| rubber chicken | 06:59 | | |
| Candy floss | 21:45 | | |



The performers are trying to perfect some new tricks. As Ringmaster, you are in charge of keeping the show running on time.

12. Calculate the duration of each act.

| Act | Start time | End time | Duration |
|-------------------|------------|----------|----------|
| Balancing Bikes | 10:33 | 10:55 | |
| Aerial Gymnastics | 11:15 | 12:27 | |
| Dance Tricks | 13:45 | 14:23 | |
| Contortionists | 14:30 | 15:41 | |



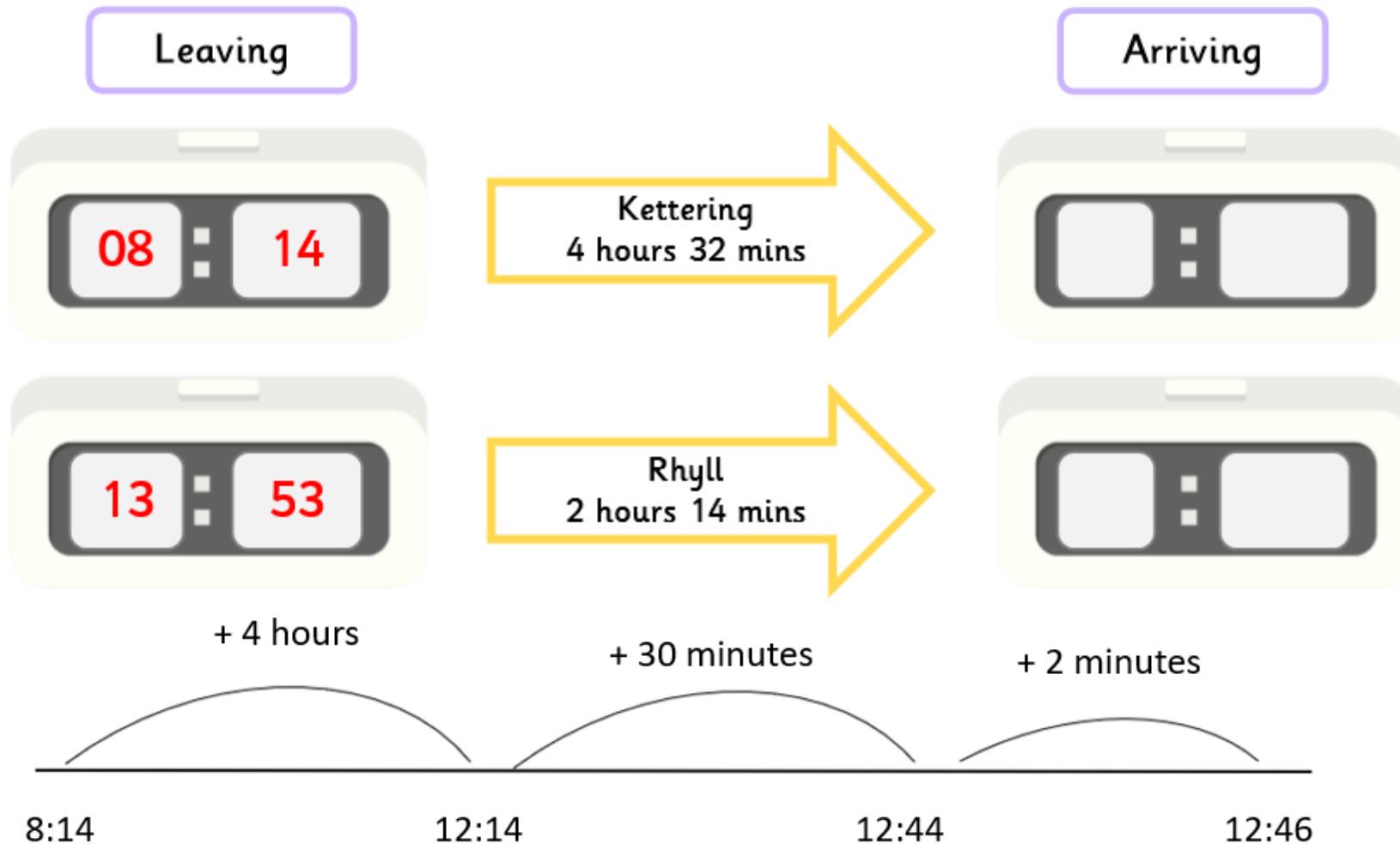
Which act is the longest? Which is the shortest?

Don't forget to use your number line to count on.

The venues are asking for arrival times of the circus.

13. Use the set off time and journey duration to calculate when you will arrive in each city.

Some venues are working in digital clocks, watch out for the 24 hour clock:



Use your number line to count on.

Place the start time at the beginning of your number line.

Jump on 4 hours.

Jump on 30 minutes.

Jump on 2 minutes.

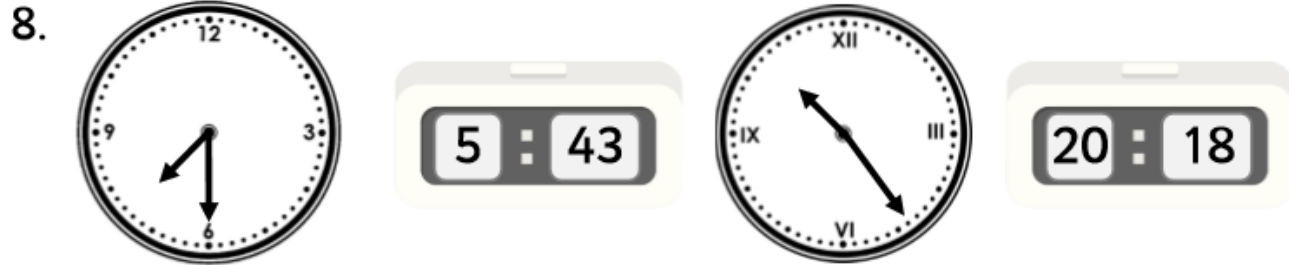
What time did you arrive?

1. 24
2. 47
3. Belfast: July 17th – July 29th
Aberdeen: July 30th – August 11th
Manchester: August 12th – August 24th
Cardiff: August 25th – September 6th
Bristol: September 7th – September 19th
4. Glasgow: September 30th
Newcastle: October 13th
Cardiff: November 21st
Portsmouth: December 18th
Edinburgh: January 24th
London: March 2nd
5. May 11th
6. Summer will be a challenge because the sun sets later in the evening.

Answers

7.

| City | Sunset | Show begins | Maximum Show Duration |
|-----------|--------|-------------|-----------------------|
| Leeds | 21:15 | 22:15 | 1h 45m |
| Edinburgh | 17:35 | 18:35 | 5h 25m |
| Aberdeen | 20:45 | 21:45 | 2h 15m |
| London | 15:15 | 16:15 | 7h 45m |



9. 2h 48m

10. 5:45, 6:45, 7:45. The minute hand is at 9 and it was already past 6 o'clock so it can't be earlier. If it was any later than 7:45, it would be during the show.

11. a.m., a.m., p.m., a.m., p.m.

12. 22m, 1h 13m, 38m, 1h 11m. Longest – Aerial Gymnastics, shortest – Balancing Bikes

13. Kettering: 12:46
Rhyl: 16:07

Coundon Primary School

Year 3 Maths Home Learning Pack 2

Week commencing 4.5.20



Year 3 – Home Learning Pack 2

Maths Lesson 6

Key Skill: I can recall what I have learnt so far about length.

Success Criteria

I can measure in cm, mm and m.

I can convert between units of measure.

I can order and compare lengths.

1m 34cm

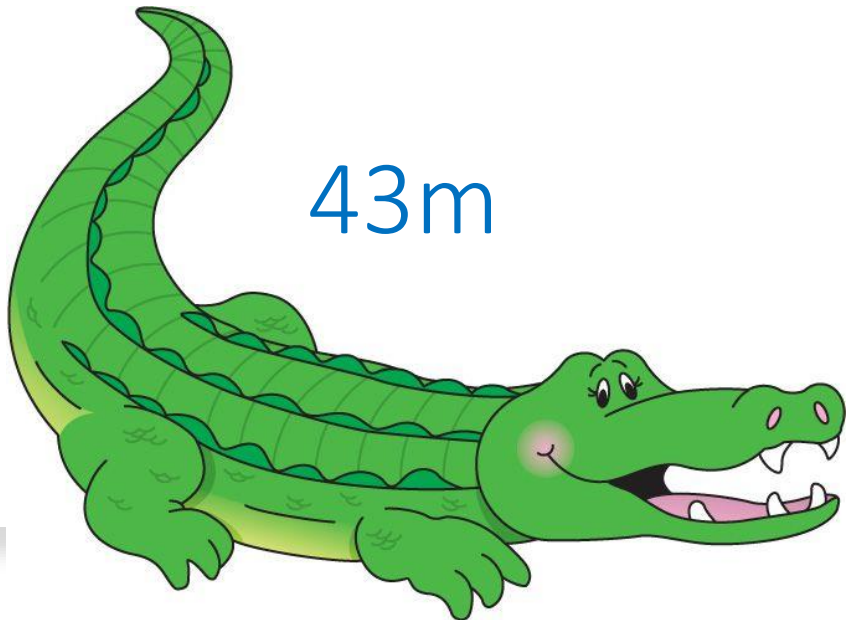
134cm

12mm

52cm

43m

11cm



Starter

Have a go at comparing these measurements using greater than, less than, or equal to signs. $<$ $>$ $=$

Remember

The crocodile always likes to eat the

biggest number.

Learning

Prior to closing, you were learning all about measure in your maths lessons. We had learnt how to measure using different units of measure.

We learnt that:

$$100\text{cm} = 1\text{m}$$

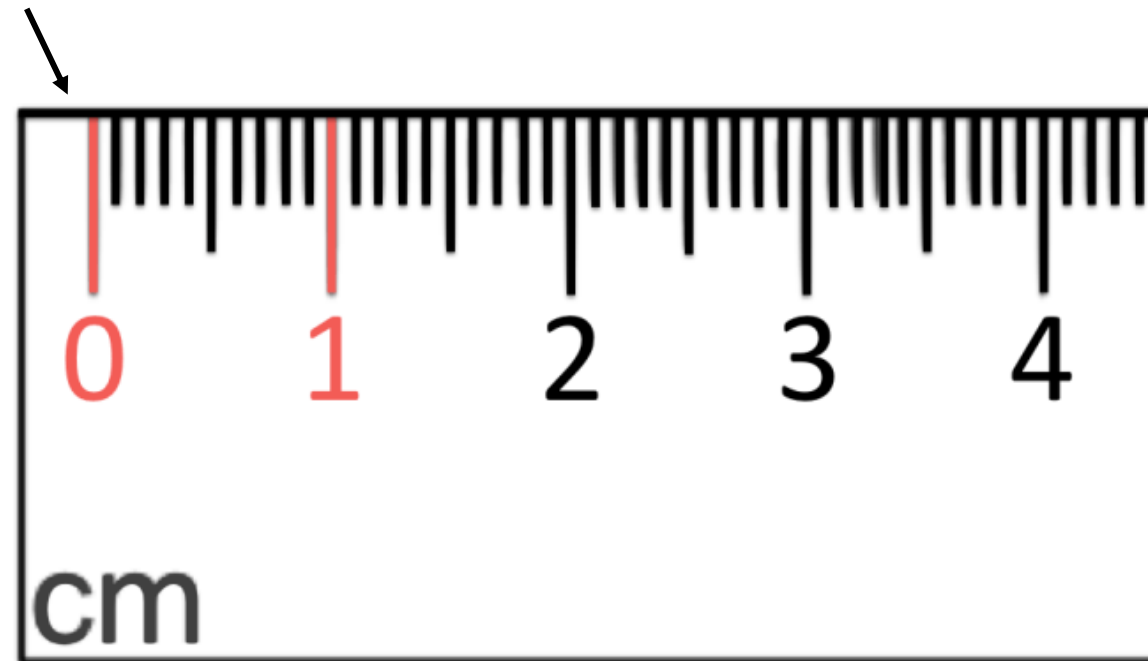
$$10\text{mm} = 1\text{cm}$$

We learnt that 1km was the largest unit of length, followed by 1m.

1mm was the smallest unit of measure.

$$1\text{mm} < 1\text{cm} < 1\text{m} < 1\text{km}$$

Remember when measuring you start at 0, not at the end of the ruler.

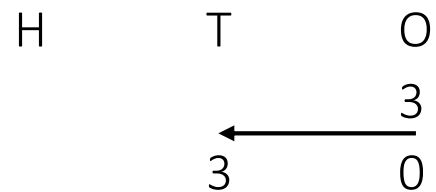


Learning

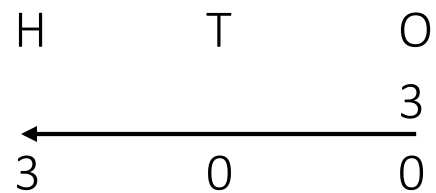
When converting between different units of measure we multiply and divide by 10 and 100.

Practise multiplying these numbers by 10 and 100.

When **multiplying by 10** your digits will move to the **left by 1 place**.



When **multiplying by 100** your digits will move to the **left by 2 places**.



We use 0's to hold our places.

Independent Task

Complete these questions in your book.

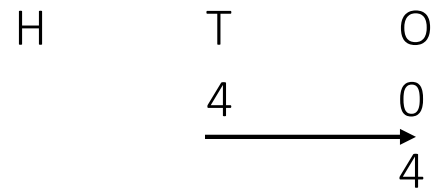
| Number | X 10 | x100 |
|--------|------|------|
| 3 | 30 | 300 |
| 5 | | |
| 13 | | |
| 17 | | |
| 24 | | |
| 20 | | |
| 32 | | 3200 |

Learning

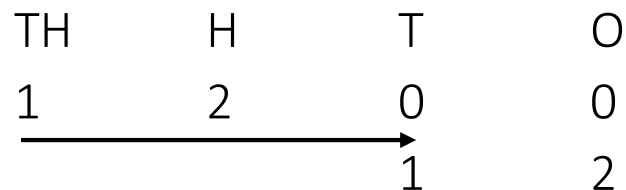
When converting between different units of measure we multiply and divide by 10 and 100.

Practise dividing these numbers by 10 and 100.

When **dividing by 10** your digits will move to the **right by 1 place**.



When **dividing by 100** your digits will move to the **right by 2 places**.



Independent Task

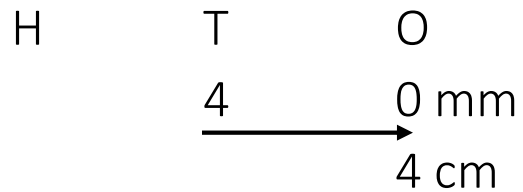
Complete these questions in your book.

| Number | ÷10 | ÷100 |
|--------|-----|------|
| 300 | 30 | 3 |
| 600 | | |
| 1300 | | |
| 1500 | | |
| 2200 | | |
| 8700 | | |
| 7000 | | |

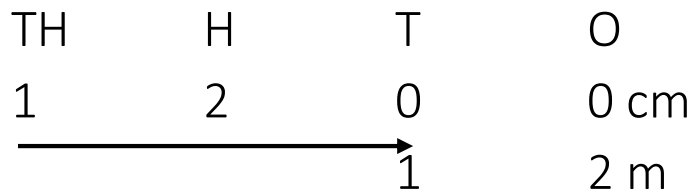
Learning

Now let's have a go converting units of measure using the skill we have just practised.

When converting from mm to cm, you **divide by 10** your digits will move to the **right by 1 place**.

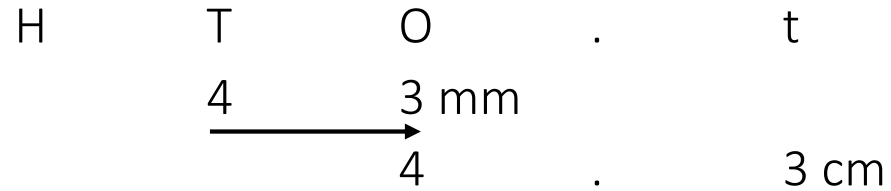


When converting from cm to m, you **divide by 100** your digits will move to the **right by 2 places**.

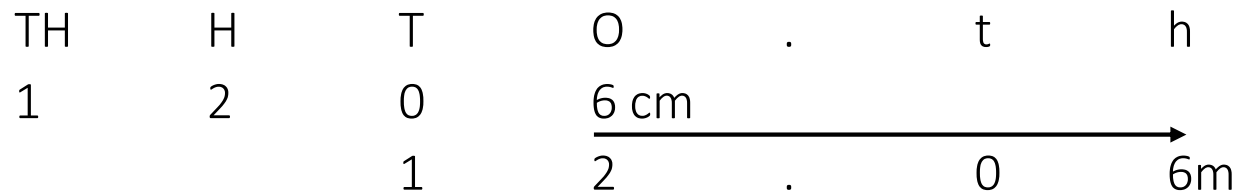


Stars

When converting from mm to cm, you **divide by 10** your digits will move to the **right by 1 place**.



When converting from cm to m, you **divide by 100** your digits will move to the **right by 2 places**.



When converting from **cm to mm** you move **1 place to the left**.
When converting from **m to cm** you move **2 places to the left**.

Independent Task

Choose your level of challenge and have a go at converting between different units of measure. Record your answers in your exercise book. Don't forget to put mm, cm or m.

| cm to mm | | m to cm | |
|---------------|-----------|---------------|-----------|
| <u>Clouds</u> | <u>mm</u> | <u>Clouds</u> | <u>cm</u> |
| 3cm | 30mm | 3m | 300cm |
| 6cm | | 9m | |
| 14cm | | 2m | |
| 16cm | | 11m | |

| cm to mm | | m to cm | |
|--------------|-----------|--------------|-----------|
| <u>Moons</u> | <u>mm</u> | <u>Moons</u> | <u>cm</u> |
| 13cm | 130mm | 21m | 2100cm |
| 26cm | | 34m | |
| 34cm | | 20m | |
| 106cm | | 73m | |

| mm to cm | | cm to m | |
|--------------|----------------------|--------------|------------------------|
| <u>Stars</u> | <u>cm</u> | <u>Stars</u> | <u>m</u> |
| 31mm | 3.1cm or 3cm and 1mm | 316cm | 3.16m or 3 m and 16 cm |
| 64mm | | 219cm | |
| 140mm | | 201cm | |
| 106mm | | 1101cm | |

Answers are on the next slide.

Independent Task: Answers

| cm to mm | | m to cm | |
|---------------|-----------|---------------|-----------|
| <u>Clouds</u> | <u>mm</u> | <u>Clouds</u> | <u>cm</u> |
| 3cm | 30mm | 3m | 300cm |
| 6cm | 60mm | 9m | 900cm |
| 14cm | 140mm | 2m | 200cm |
| 16cm | 160mm | 11m | 1100cm |

| cm to mm | | m to cm | |
|--------------|-----------|--------------|-----------|
| <u>Moons</u> | <u>mm</u> | <u>Moons</u> | <u>cm</u> |
| 13cm | 130mm | 21m | 2100cm |
| 26cm | 260mm | 34m | 3400cm |
| 34cm | 340mm | 20m | 2000cm |
| 106cm | 1060mm | 73m | 7300cm |

| mm to cm | | cm to m | |
|--------------|------------------------|--------------|------------------------|
| <u>Stars</u> | <u>cm</u> | <u>Stars</u> | <u>m</u> |
| 31mm | 3.1cm or 3cm and 1mm | 316cm | 3.16m or 3 m and 16 cm |
| 64mm | 6.4cm or 6cm and 4mm | 219cm | 2.19m or 2m and 19cm |
| 140mm | 14cm | 201cm | 2.01m or 2m and 1cm |
| 106mm | 10.6cm or 10cm and 6mm | 1101cm | 11.01m or 11m and 1cm |

Independent Task

Find a measuring tape, ruler or tape measure in your house and record in your exercise book:

Three objects that are smaller than 1m.
Three objects that are larger than 1m.
Three objects that are smaller than 10cm.

Be sure to record the measurements next to the object name.

For example: Coffee Table: 1m 25cm

When you have collected your 9 objects with their lengths.

Can you place them in order of size from smallest to largest.

For example:

Book: 22cm < Shoe:34cm < Basket 44cm

Year 3 – Home Learning Pack 2

Maths Lesson 7

Key Skill: I can measure perimeter.

Success Criteria

I know what perimeter means.

I can accurately use measuring equipment.

I can add lengths.

Starter

Have a go at solving this problem.

Remember

When adding measures make sure your units of measure are all the same before you start.

Or add all like units of measure. E.g.
 $1m + 1m = 2m$
 $56cm + 50cm + 210cm = 316cm$

316cm is the same as 3m and 16cm

$2m + 3m = 5m$
 $5m + 16cm = 5m 16cm$

Lisa threw her bean bags 5m 16cm altogether.

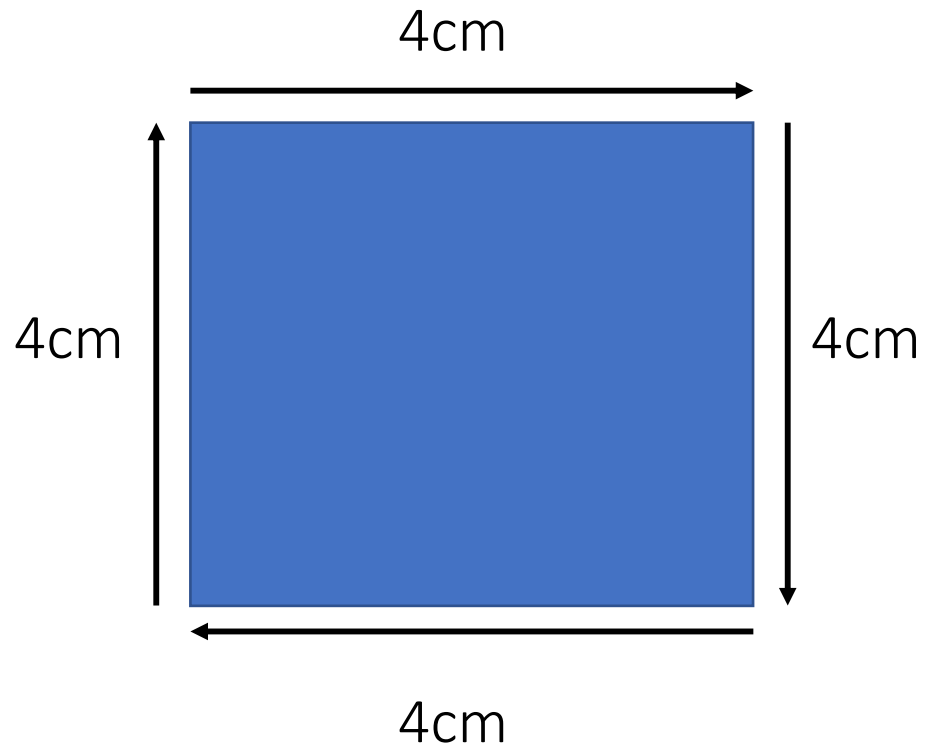
4a. Some children threw three bean bags and measured how far they had travelled.
They recorded the distances in this table.

| | | | |
|---------|---------|---------|-------|
| Lisa | 1m 56cm | 1m 50cm | 210cm |
| Charles | 365cm | 8cm 2mm | 220cm |
| Henry | 1m 25cm | 245cm | 320cm |

Which child had the largest total distance?

Learning

Perimeter means the distance around the outside of a shape.

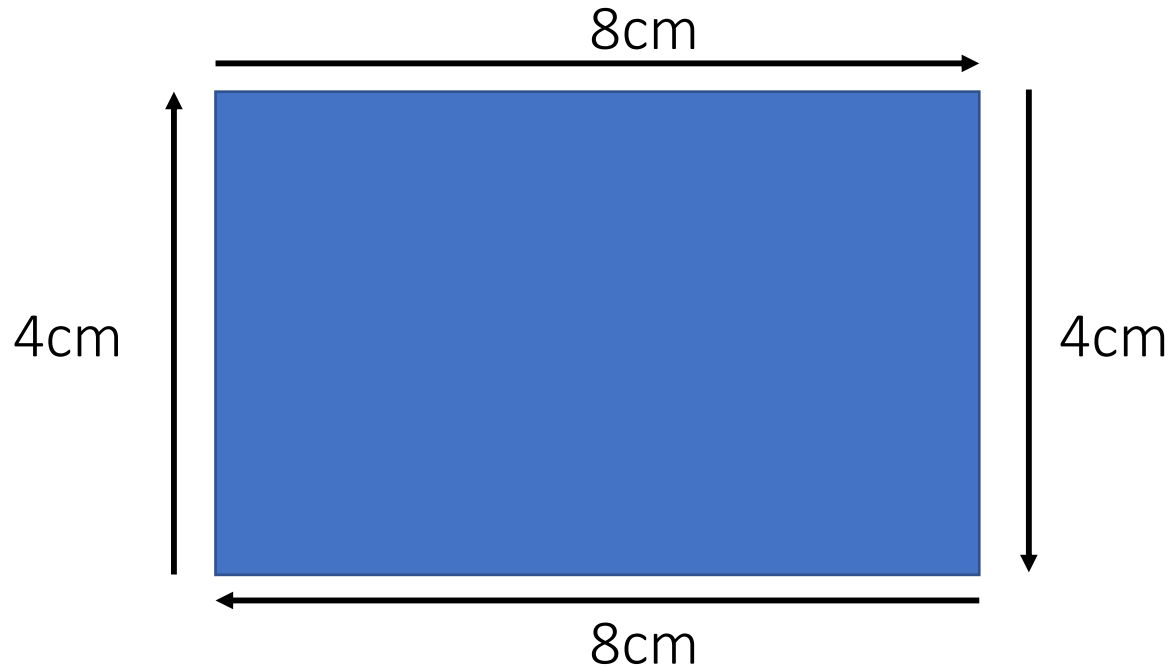


If you are measuring the perimeter around this square, you would add each of the sides of the shape together.

$$4\text{cm} + 4\text{cm} + 4\text{cm} + 4\text{cm} = 16\text{cm}$$

Therefore the perimeter of the shape is 16cm.

Learning



If you are measuring the perimeter around this rectangle, you would add each of the sides of the shape together.

$$8\text{cm} + 4\text{cm} + 8\text{cm} + 4\text{cm} = 24\text{cm}$$

Therefore the perimeter of the shape is 24cm.

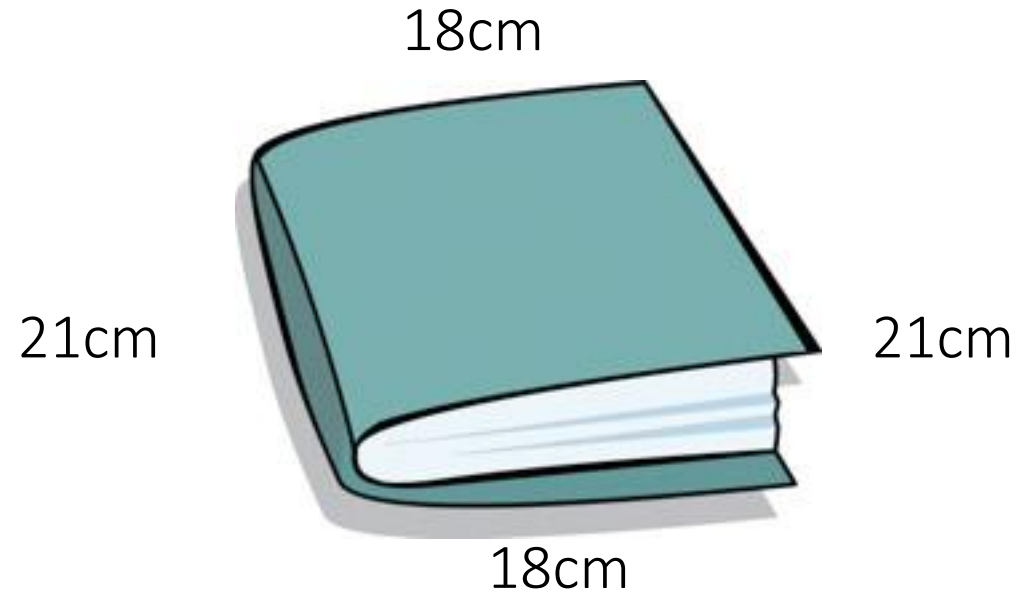
Independent Task

Find a measuring tape, ruler or tape measure in your house and record in your exercise book the perimeter of 5 different objects in your house.

1. Draw the object
2. Label the sides
3. Show your working out.
4. Don't forget cm, mm or m.

Make sure your objects are polygons – which means that it has straight sides.

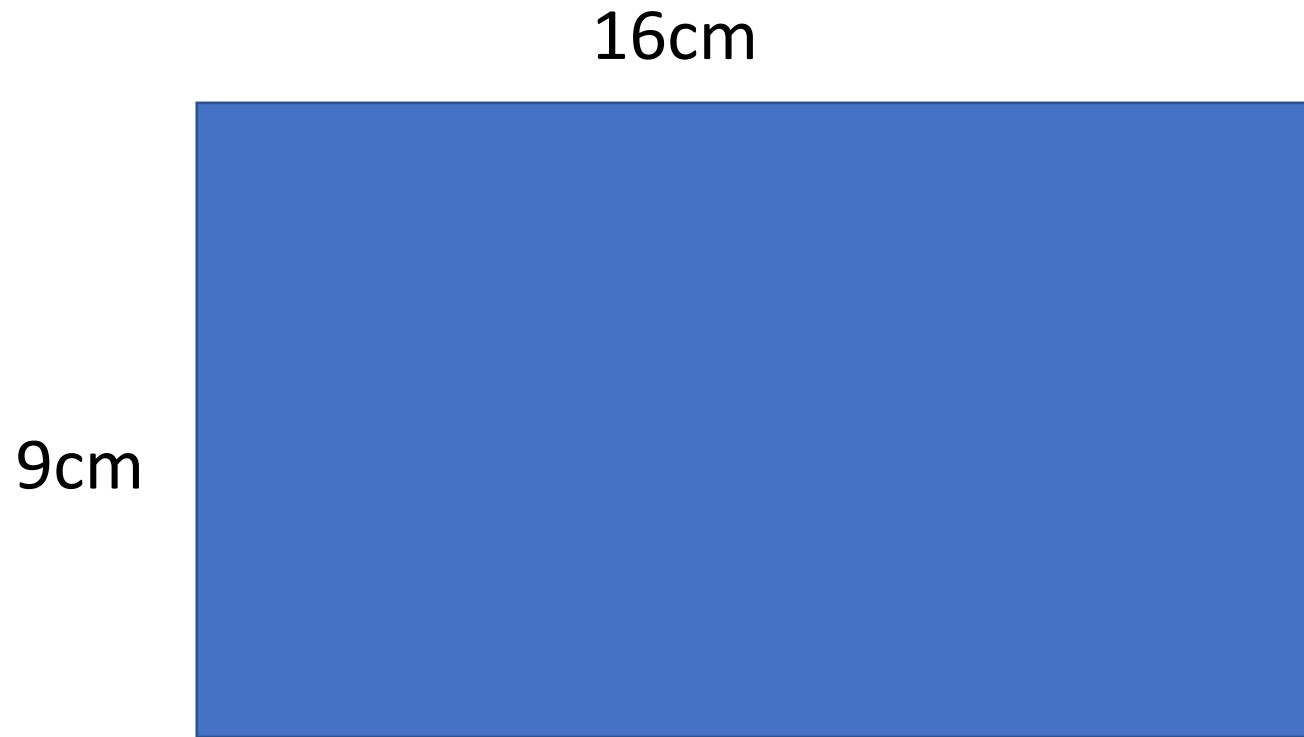
For example: Coffee Table, book, photo frame, table, toy box...



$$18\text{cm} + 21\text{cm} = 39\text{cm}$$

$$18\text{cm} + 21\text{cm} = 39\text{cm}$$

$$39\text{cm} + 39\text{cm} = 78\text{cm}$$



Plenary

Can you work out the perimeter around this shape with only these measurements?

Year 3 – Home Learning Pack 2

Maths Lesson 8

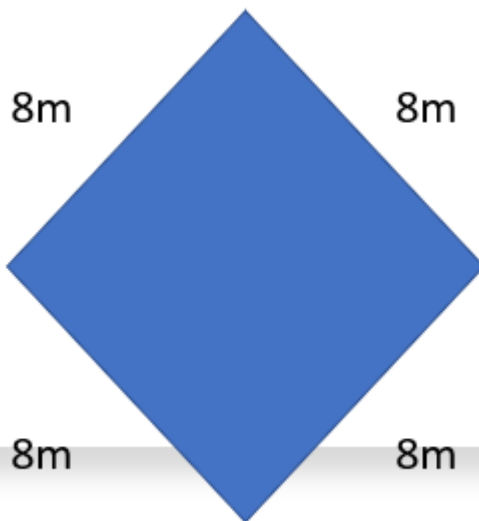
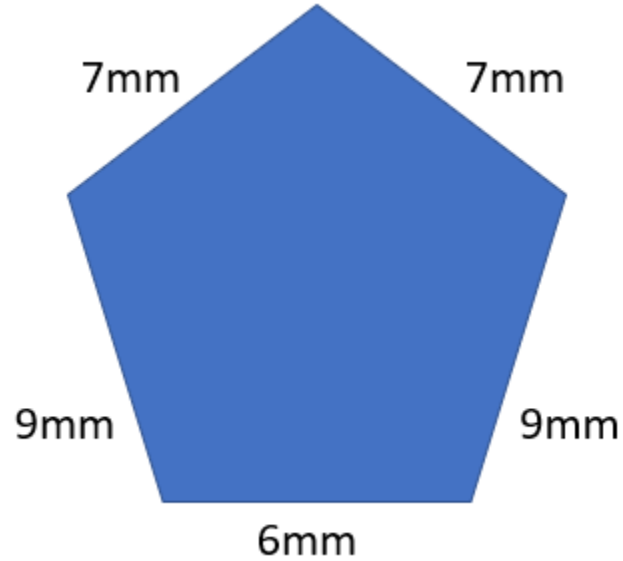
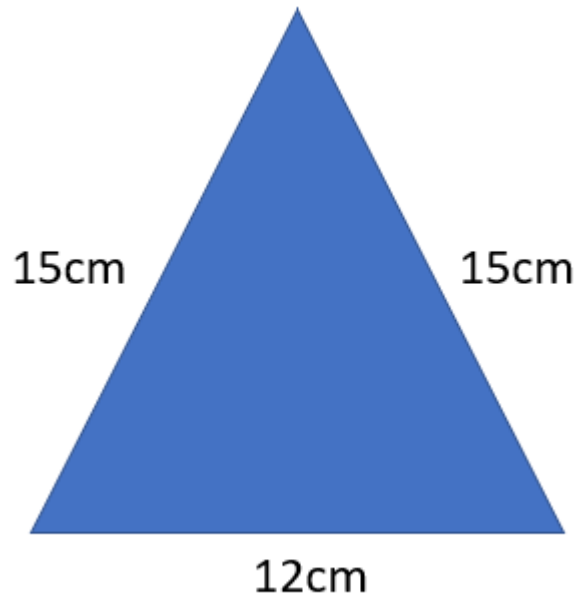
Key Skill: I can calculate perimeter of non-physical objects using given values and/or a ruler.

Success Criteria

I know what perimeter means.

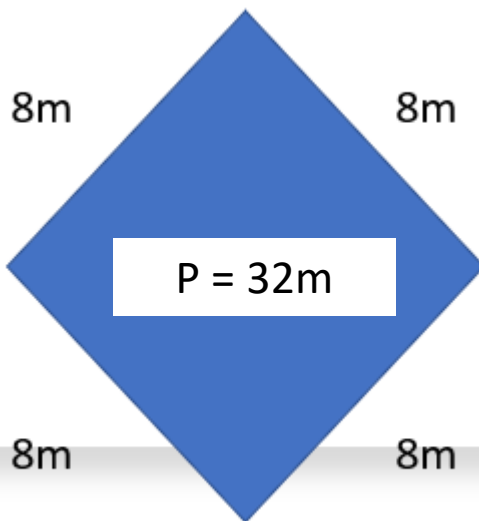
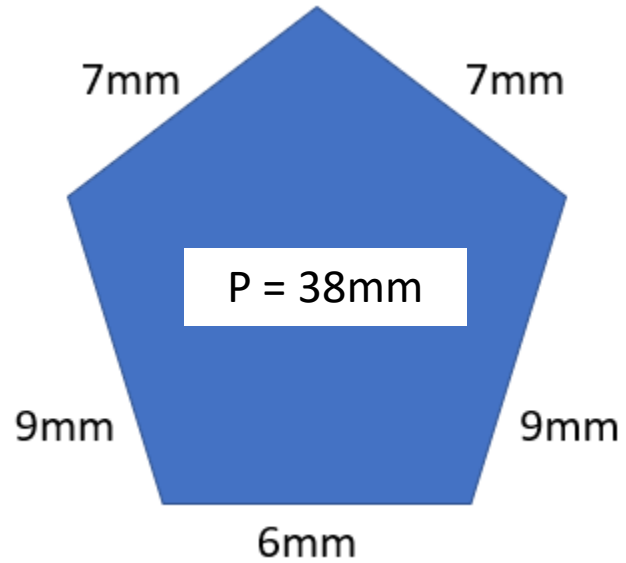
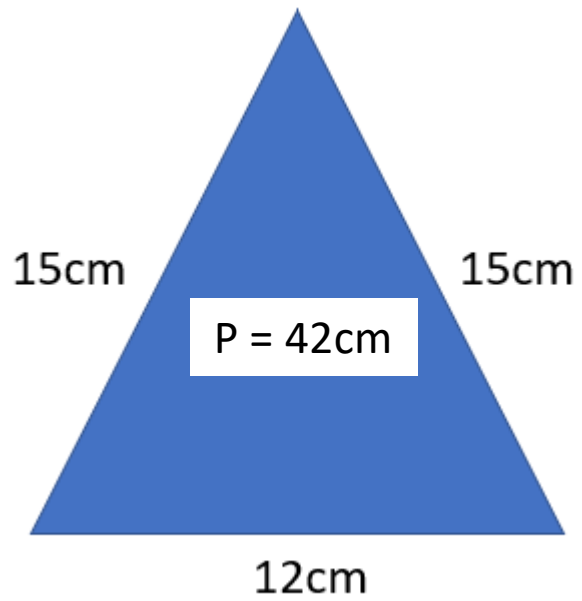
I can calculate the length of missing sides.

I can add lengths.



Starter

Calculate the perimeter of these shapes.



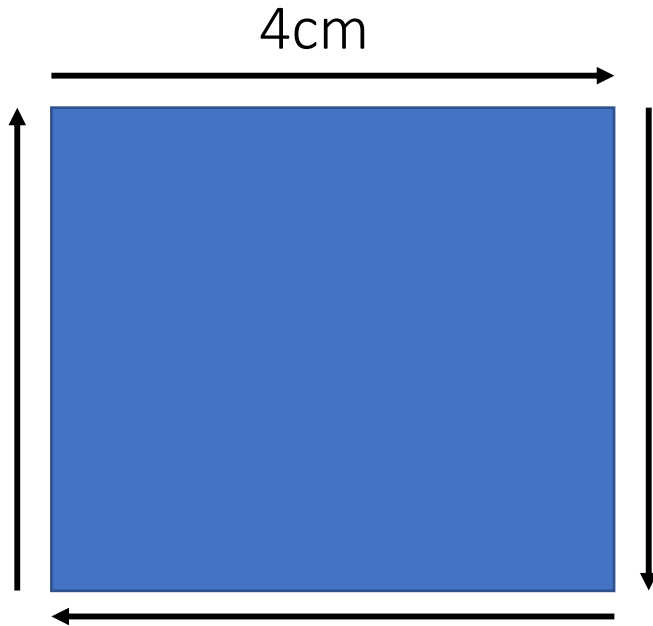
Starter

Answers

Learning

Recap

Perimeter means the distance around the outside of a shape.



If we know that a shape is a square – we do not need to measure the length of each side, we can simply multiply one side by 4.

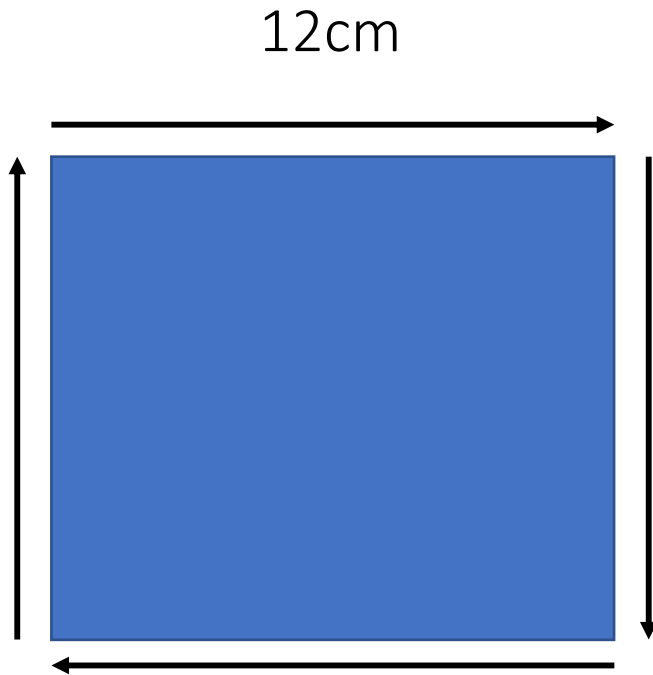
$$4\text{cm} \times 4 = 16\text{cm}$$

One side x how many sides = the perimeter

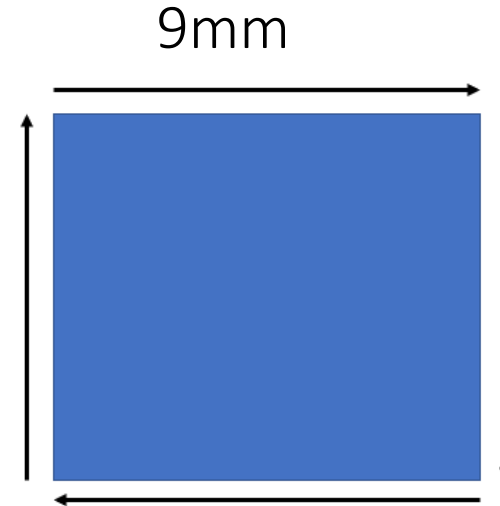
Independent Task

Calculate the perimeter of these squares and record the answers in your book.

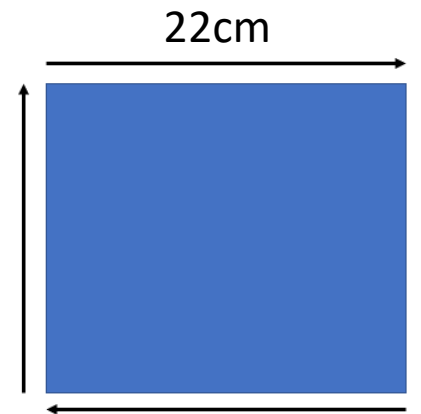
1.



2.



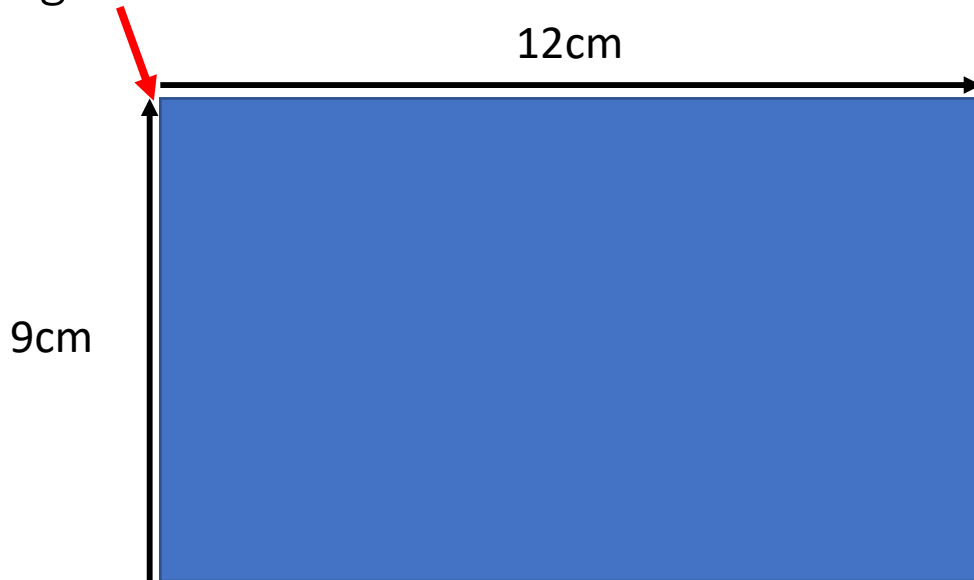
3.



Learning

When calculating the perimeter of a rectangle we only need to know the lengths of two perpendicular sides.

Perpendicular means they join at a right angle.



You know that a rectangle has two pairs of sides that are the same length.

Therefore to work out the perimeter I can add the two sides together and multiply by 2.

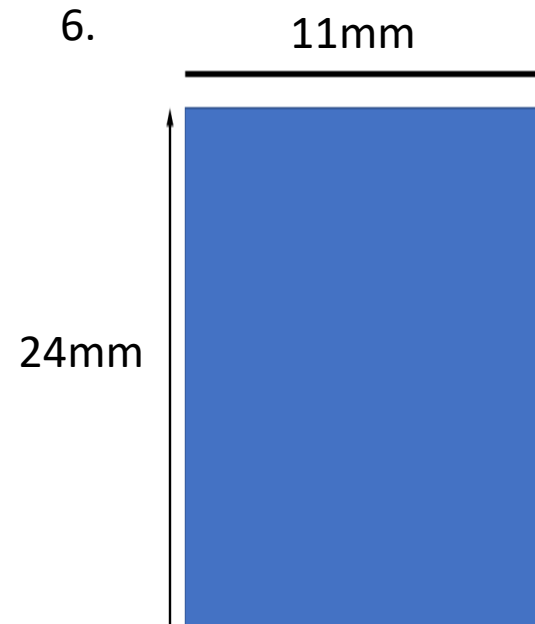
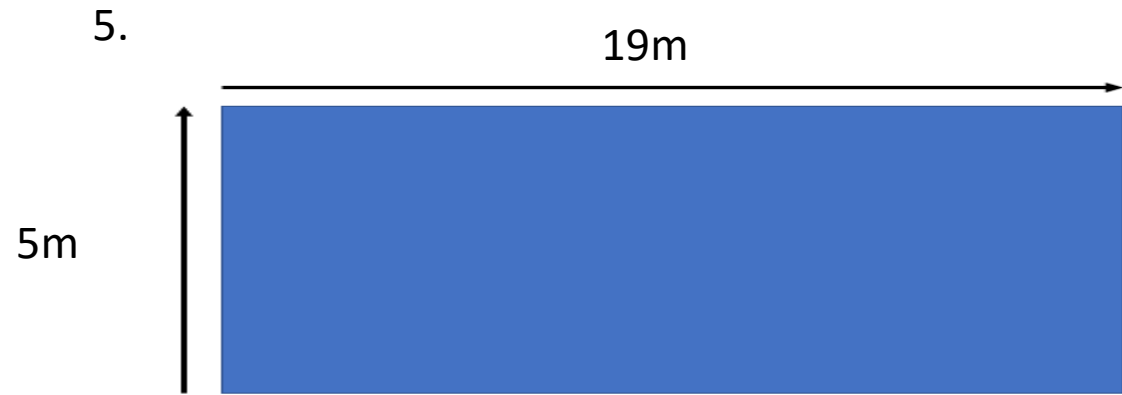
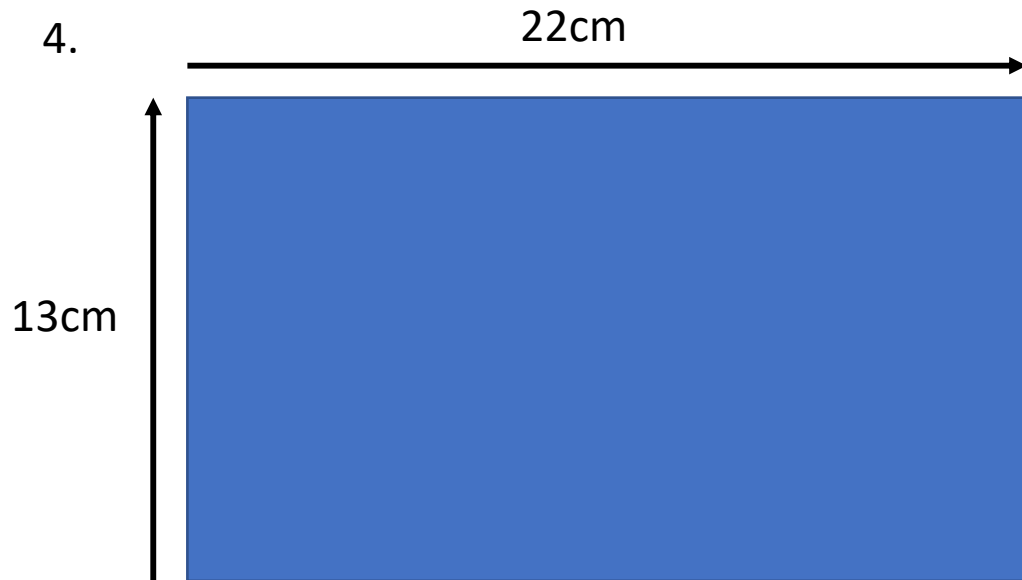
$$12\text{cm} + 9\text{cm} = 21\text{cm}$$

$$21\text{cm} \times 2 = 42\text{cm}$$

The perimeter of my rectangle is 42 cm

Independent Task

Calculate the perimeter of these rectangles and record the answers in your book.




Independent Task


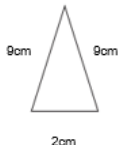

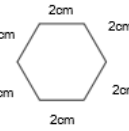
Complete your worksheet titled Perimeter in your books.

Be sure to record your working out and don't forget to record the unit of measure.



Stars – you might need to convert between different units of measure before you calculate your perimeters.


Maths Home Learning Pack 2: Lesson 8
Perimeter Worksheet 

Calculate the perimeter of the following shapes:

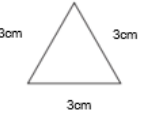
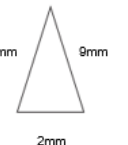

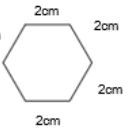
| | |
|---|---|
|  3cm 3cm 3cm _____ |  9cm 9cm 9cm 2cm _____ |
|  6cm 4cm _____ |  2cm 2cm 2cm 2cm 2cm 2cm _____ |

Measure the following shapes and then calculate the perimeter:



| | |
|--|--|
|  _____ |  _____ |
|--|--|


Maths Home Learning Pack 2: Lesson 8
Perimeter Worksheet 

Calculate the perimeter of the following shapes:



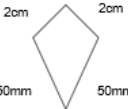
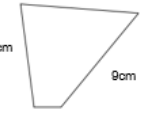
| | |
|--|--|
|  3cm 3cm 3cm _____ |  9mm 9mm 9mm 2mm _____ |
|  6mm 4mm _____ |  2cm 2cm 2cm 2cm 2cm 2cm _____ |

Measure the following shapes and then calculate the perimeter in **both cm and mm**:



| | |
|---|---|
|  cm: _____ mm: _____ |  cm: _____ mm: _____ |
|---|---|

Maths Home Learning Pack 2: Lesson 8
Perimeter Worksheet 

Calculate the perimeter of the following shapes:

| | |
|--|---|
|  3cm 3cm 3cm 3cm 3cm _____ |  6mm 6mm 0.3cm _____ |
|  2cm 2cm 2cm 2cm 50mm 50mm _____ |  8cm 7cm 9cm 15mm _____ |

Measure the following shapes and then calculate the perimeter in **both cm and mm**:

| | |
|---|---|
|  cm: _____ mm: _____ |  cm: _____ mm: _____ |
|---|---|

Side A is 20mm.

Side B is double this length.

Side C is one quarter of side B

Side D is 3x that of side C.

Plenary

Can you work out the perimeter of this shape?

Year 3 – Home Learning Pack 2

Maths Lesson 9

Key Skill: I can solve problems involving perimeter.

Success Criteria

I know what perimeter means.

I can use all four operations to help me calculate missing sides.

I can explain my reasoning.



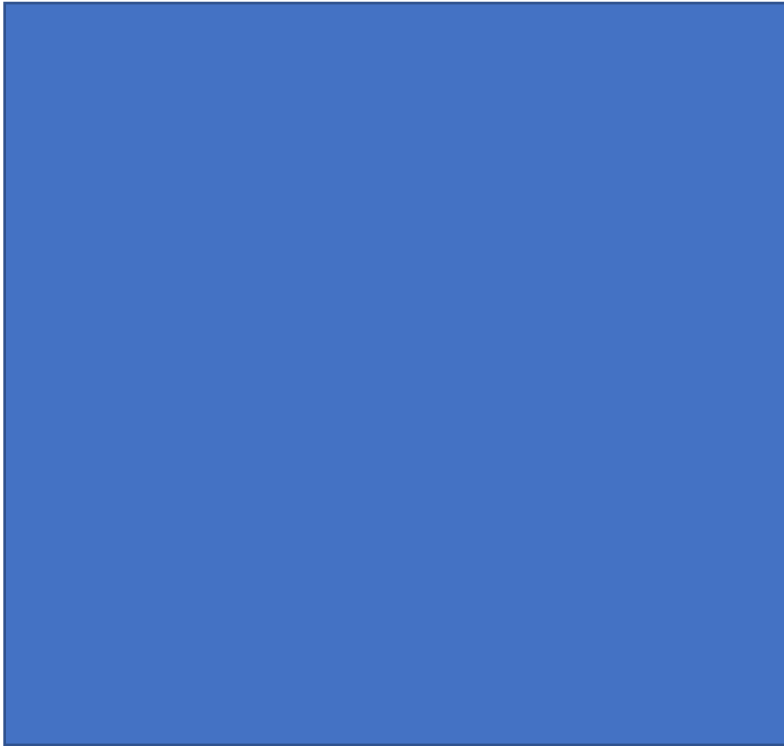
Starter

This square has a perimeter of 40cm.

What is the length of each of its sides?

Starter

This square has a perimeter of 40cm.
What is the length of each of its sides?



$$40 \div 4 = 10$$

The length of each side is 10cm.

Information we know to help us solve this problem.

The total distance around the shape is 40cm.

A square has 4 sides of equal length.

Learning

To calculate the perimeter of shapes with missing sides we must first be familiar with the properties of different shapes. With your parent – read the definitions and point to the correct shape.

A rectangle

Has two pairs of equal length sides.

A square

Has four sides of equal length.

An equilateral triangle

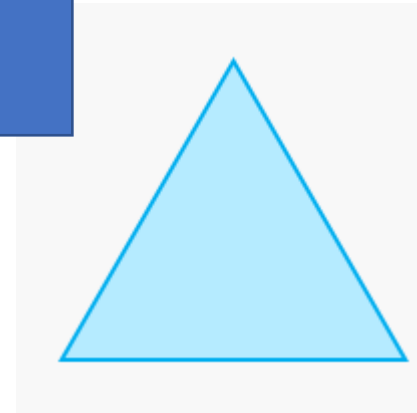
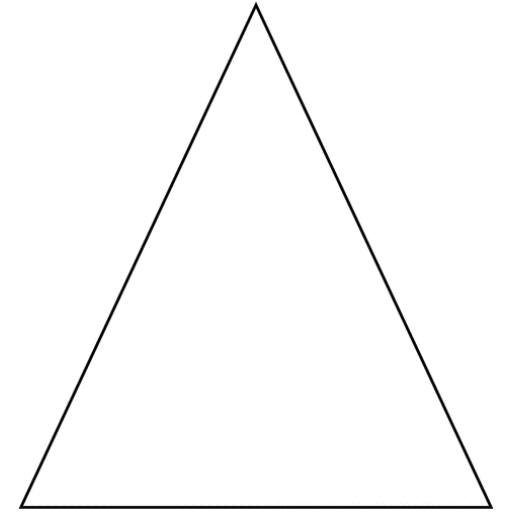
Has three sides of equal length

An isosceles triangle

Has one pair of equal length sides and one side of a different length.

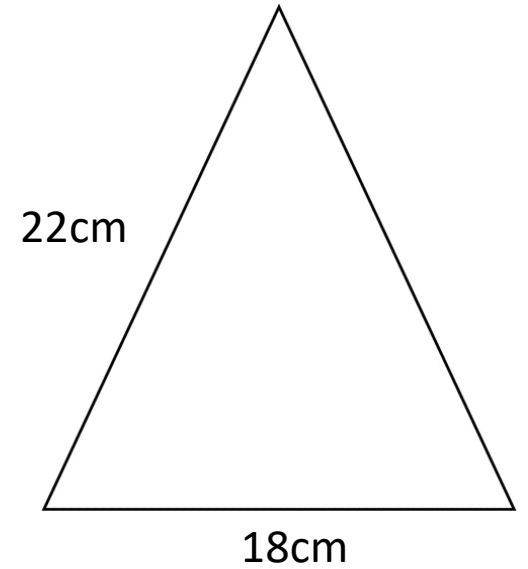
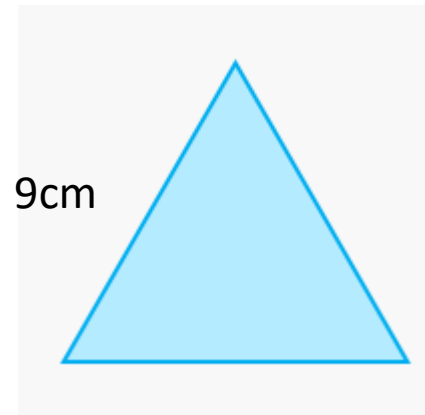
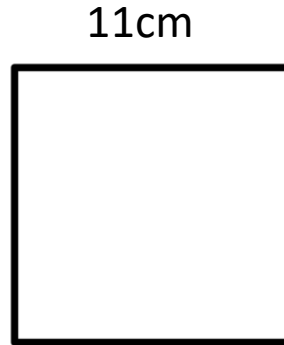
Recap

Perimeter means the distance around the outside of a shape.



Independent Task

Calculate the perimeter of these shapes. Write the name of the shape in your book and record the perimeter with your working out.



Learning

Calculating the missing lengths of a rectangle when only one length is given.

The total perimeter of this rectangle is 40cm.

We know one side is 12cm.

We also know that the opposite side is 12cm.

$$12\text{cm} + 12\text{cm} = 24\text{cm}$$

To calculate the missing lengths we need to take this number away from the total length.

$$40\text{cm} - 24\text{cm} = 16\text{cm}$$

We then need to divide our answer by two as there are two equal sides.

$$16\text{cm} \div 2 = 8\text{cm}$$

12cm



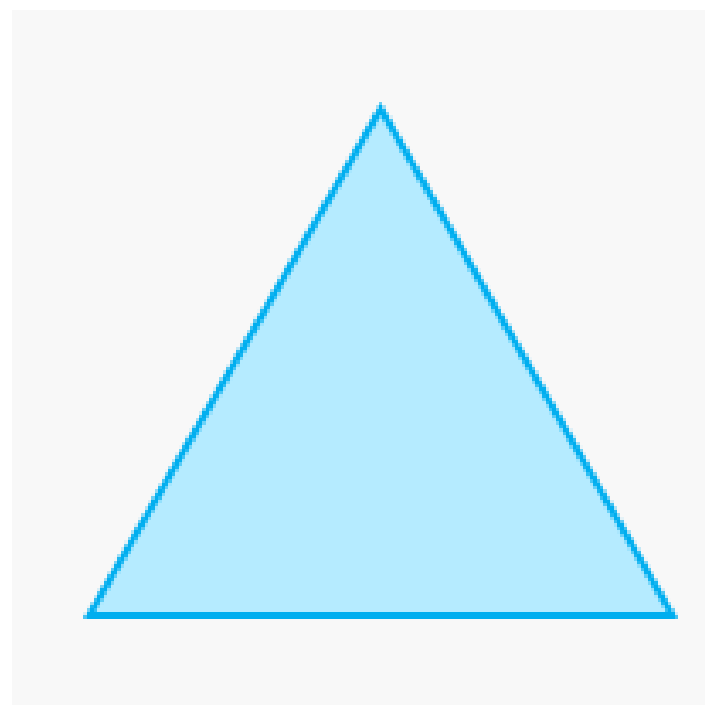
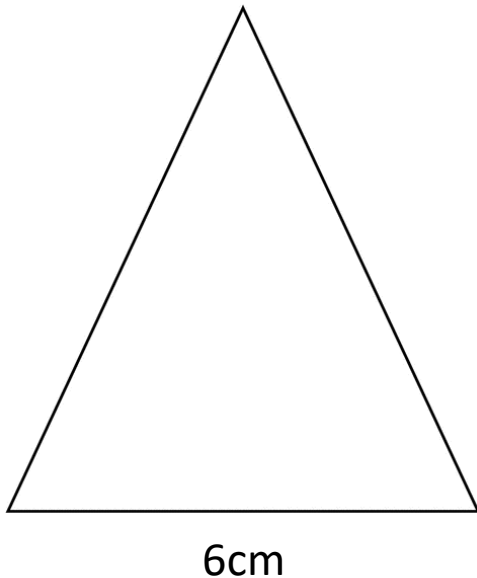
Learning

Calculating the missing lengths of an equilateral triangle when only the perimeter is given.

The total perimeter of this triangle is 21cm.

We know that all of its 3 sides are the same length.

$$21\text{cm} \div 3 = 7\text{cm}$$



Calculating the missing lengths of an isosceles triangle when only the perimeter and one side is given.

The total perimeter of this triangle is 24cm.

We know one of its sides is 6cm.

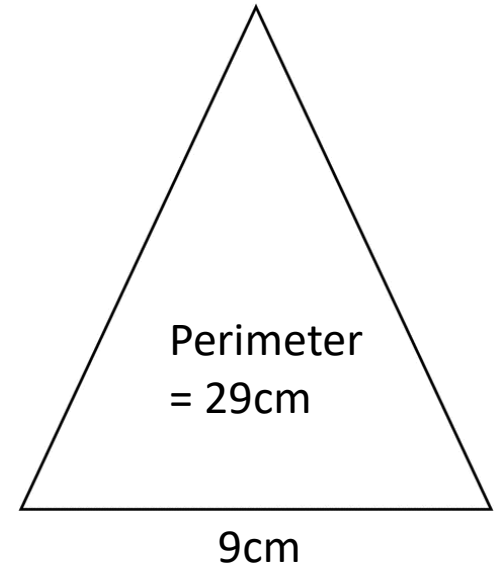
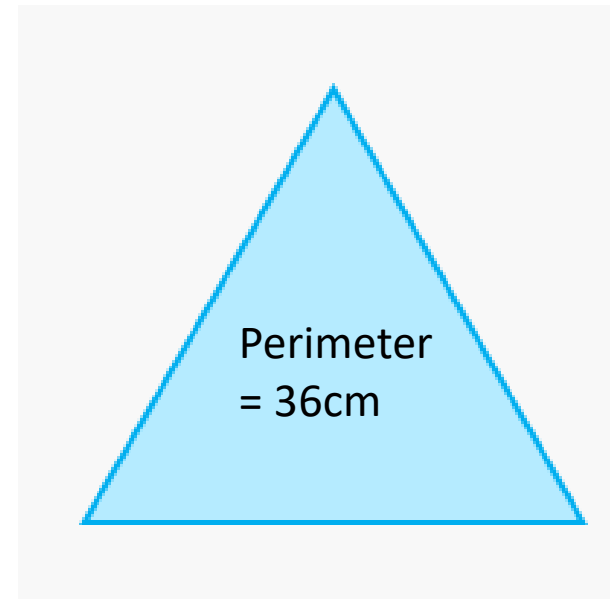
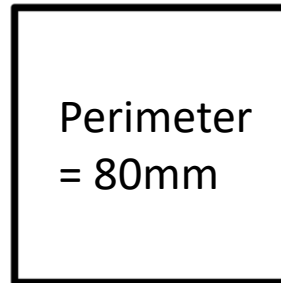
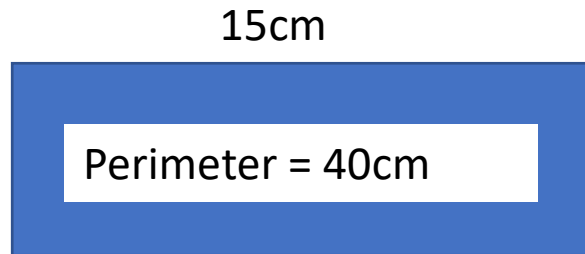
$$24\text{cm} - 6\text{cm} = 18\text{cm}$$

We now have the two equal sides to find.

$$18\text{cm} \div 2 = 9\text{cm}$$

Independent Task

Calculate the missing lengths of these shapes using the given lengths and perimeters to help you. Write the name of the shape in your book and the lengths of each side.



Plenary

1a. Follow the clues to draw the shape.



It has 4 equal sides. The perimeter is 16cm.

Information we know to help us solve this problem.

The total distance around the shape is 16cm.

It has 4 equal sides.

Answer is on the next slide.

Plenary - Answer

1a. Follow the clues to draw the shape.



It has 4 equal sides. The
perimeter is 16cm.

You should have
drawn a square.

Each of your sides
should have been
4cm long.

Year 3 – Home Learning Pack 2

Maths Lesson 10

Key Skill: I can solve problems involving perimeter.

Success Criteria

I know what perimeter means.

I can use all four operations to calculate missing sides.

I can explain my reasoning.

Starter

4a. Follow the clues to draw the shape.



It has 3 sides. Two are equal. The perimeter is 100mm.

Information we know to help us solve this problem.

The total distance around the shape is 100mm

It has 3 sides.

1 pair of sides are equal.

Answer is on the next slide.

Starter - Answer

4a. Follow the clues to draw the shape.



It has 3 sides. Two are equal. The perimeter is 100mm.

You should have drawn an isosceles triangle.

Your measurements might be different to mine but one side must be smaller/larger than the other two.

E.g. side 1 = 4mm
side 2 = 4mm
side 3 = 2mm

Learning

To calculate the length of shapes with missing sides, we need to add up the sides we have and subtract them from the total perimeter.

The total perimeter of this shape is 28cm

$$8\text{cm} + 8\text{cm} = 16\text{cm}$$

$$1\text{cm} + 1\text{cm} = 2\text{cm}$$

$$3\text{cm} + 3\text{cm} = 6\text{cm}$$

Add together your totals

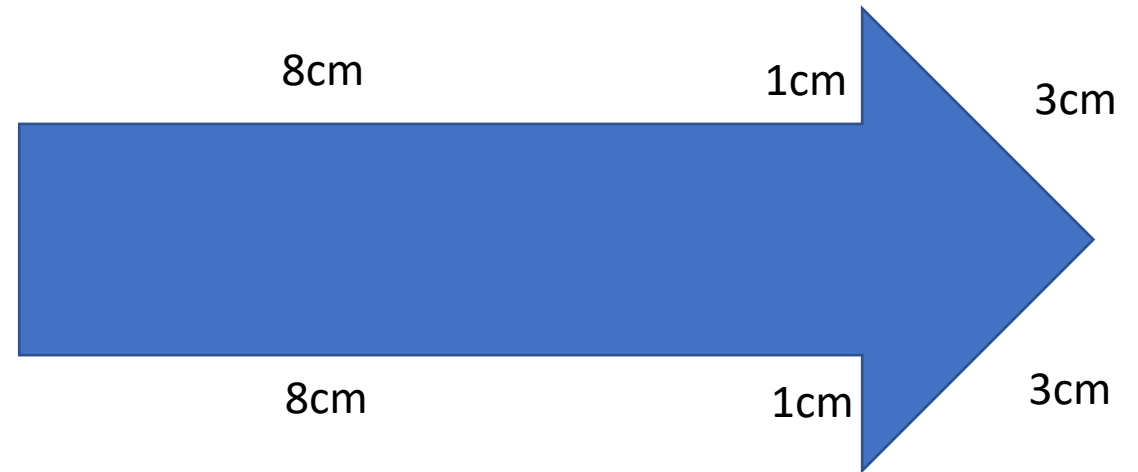
$$16\text{cm} + 2\text{cm} + 6\text{cm} = 24\text{cm}$$

Remember to use your column addition to help you.

$$\begin{array}{r} 16 \\ 6 \\ + 2 \\ \hline 24 \\ \hline \end{array}$$

Recap

Perimeter means the distance around the outside of a shape.



Then subtract the total of the sides you have from the total perimeter of the shape.

$$28\text{cm} - 24\text{cm} = 4\text{cm}$$

So the length of the missing side is 4cm

Learning

To calculate the length of shapes with missing sides, we need to add up the sides we have and subtract them from the total perimeter.

The total perimeter of this shape is 68m.

$$12\text{m} + 12\text{m} = 24\text{m}$$

$$3\text{m} + 7\text{m} = 10\text{m}$$

$$10\text{m} + 3\text{m} + 15\text{m} = 28\text{m}$$

Add together your totals

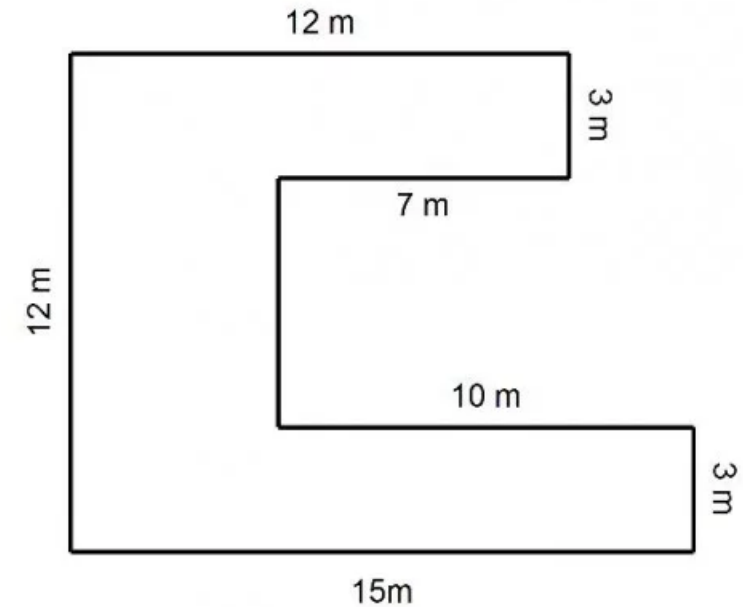
$$24\text{m} + 10\text{m} + 28\text{m} = 62\text{m}$$

Remember to use your column addition to help you.

$$\begin{array}{r} 12 \\ + 12 \\ \hline 24 \end{array}$$

Recap

Perimeter means the distance around the outside of a shape.



Then subtract the total of the sides you have from the total perimeter of the shape.

$$68\text{m} - 62\text{m} = 6\text{m}$$

So the length of the missing side is 6m

Moons and Stars - Learning

To calculate the length of shapes with different missing sides, we first need to locate the missing lengths.

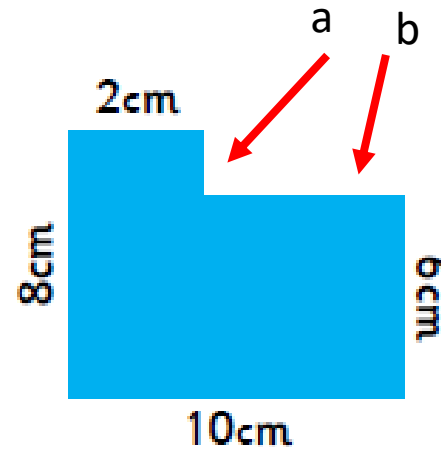
Add up the sides you have already

$$2\text{cm} + 8\text{cm} = 10\text{cm}$$

$$10\text{cm} + 6\text{cm} = 16\text{cm}$$

Add together your totals

$$10\text{cm} + 16\text{cm} = 26\text{cm}$$



To work out the missing sides we must look at the shape.

$$\text{Side a is the same as } 8\text{cm} - 6\text{cm} = 2\text{cm}$$

$$\text{Side b is the same as } 10\text{cm} - 2\text{cm} = 8\text{cm}$$

Then add these two lengths to your total to calculate the total perimeter.

$$26\text{cm} + 2\text{cm} + 8\text{cm} = 36\text{cm}$$

Independent Task

Complete your worksheet titled Perimeter and missing lengths in your books. If you have access to a printer, you can complete the work on the sheet if you wish.

Be sure to record your working out and don't forget to record the unit of measure.

Moons and Stars – look carefully at your shapes and identify all missing sides first as there may be more than one.

Maths Home Learning Pack 2: Lesson 10

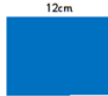
Perimeter and missing lengths worksheet



- 1) The perimeter of this shape is 20cm.
What are the missing lengths?



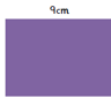
- 2) The perimeter of this shape is 30cm.
What are the missing lengths?



- 3) The perimeter of this shape is 34cm.
What are the missing lengths?



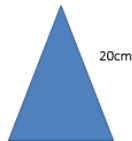
- 4) The perimeter of this shape is 26cm.
What are the missing lengths?



- 5) The perimeter of this shape is 38 cm.
What are the missing lengths?



- 6) The perimeter of this shape is 50 cm.
What are the missing lengths?



Maths Home Learning Pack 2: Lesson 10

Perimeter and missing lengths worksheet



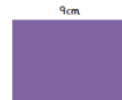
- 1) The perimeter of this shape is 30cm.
What are the missing lengths?
Convert your answers to mm:



- 2) The perimeter of this shape is 34cm.
What are the missing lengths?
Convert your answers to mm:



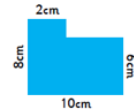
- 3) The perimeter of this shape is 26cm.
What are the missing lengths?
Please convert your answers to mm:



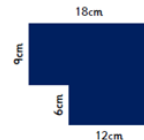
- 4) The perimeter of this shape is 38 cm.
What are the missing lengths?
Please convert your answers to mm:



- 5) The perimeter of this shape is 36 cm.
What are the missing lengths?
Please convert your answers to mm:



- 6) The perimeter of this shape is 66 cm.
What are the missing lengths?
Please convert your answers to mm:

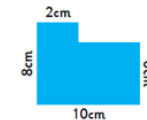


Maths Home Learning Pack 2: Lesson 10

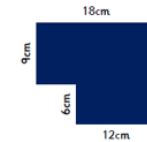
Perimeter and missing lengths worksheet



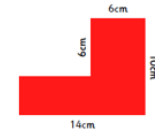
- 1) The perimeter of this shape is 36cm.
What are the missing lengths?
Please convert your answers to mm:



- 2) The perimeter of this shape is 66cm.
What are the missing lengths?
Please convert your answers to mm:



- 3) The perimeter of this shape is 48cm.
What are the missing lengths?
Please convert your answers to mm:



- 4) The perimeter of this shape is 90cm.
What are the missing lengths?
Please convert your answers to mm:

