# Digital time

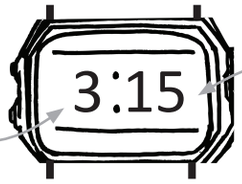
1 day = 24 hours



+

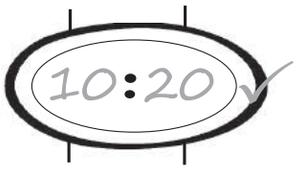


1 hour = 60 minutes

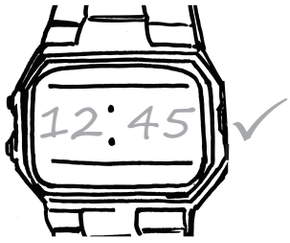



Write the time on the clocks and watches.

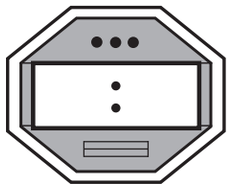
ten twenty



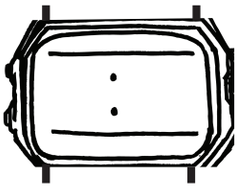

twelve forty-five



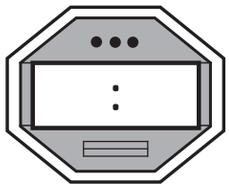

nine eighteen



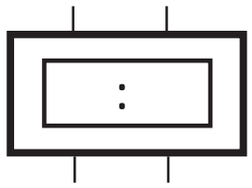
eight thirty



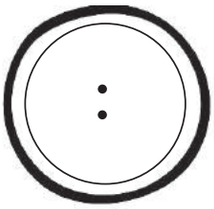
six fifty-four



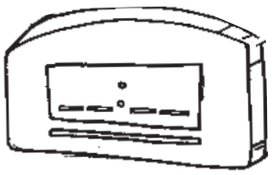
seven ten



nine fifty-eight

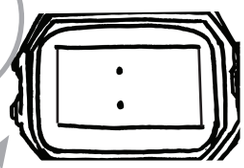


nine fifty-nine

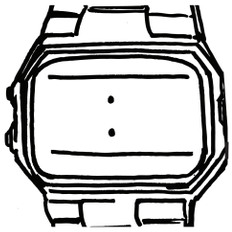


Every 60 minutes, a new hour starts.

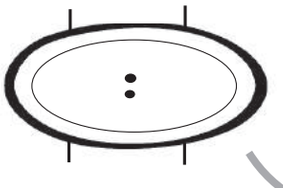
ten o'clock



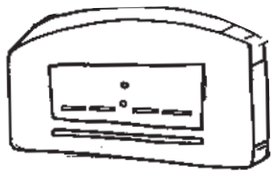
four fifty-eight



four fifty-nine



five o'clock





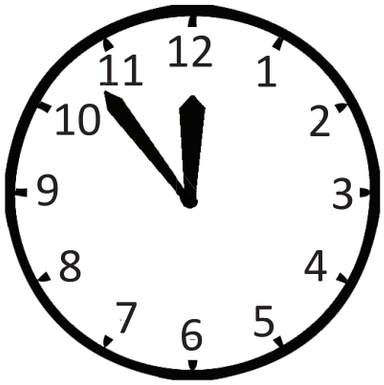
Covid-19

BOOK 26
SHEET 2

FITZROY MATHS

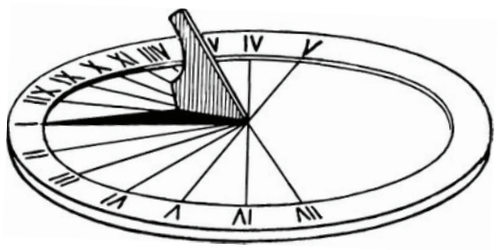
# Analog time

A clock has 2 hands: a short hand and a long hand. The short hand is the hour hand.

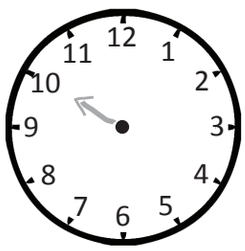



It is a bit like the shadow cast on a sundial - before clocks were invented.

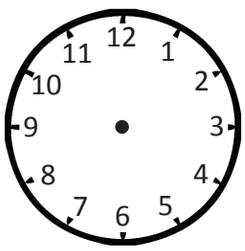




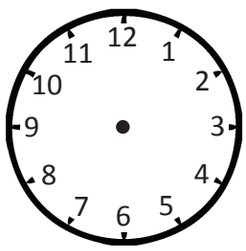
Draw the hour hand on each clock.



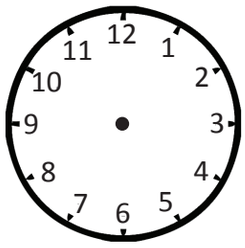
10 o'clock



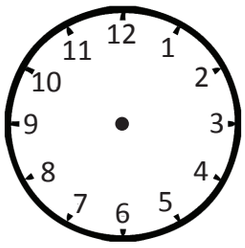
3 o'clock



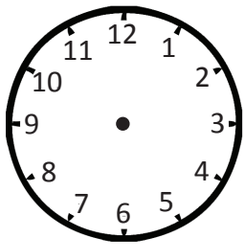
9 o'clock



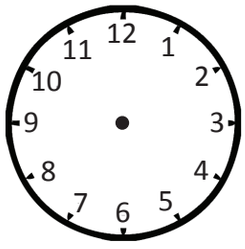
1 o'clock



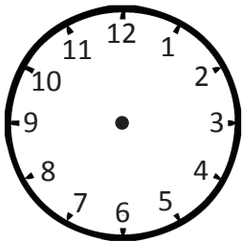
6 o'clock



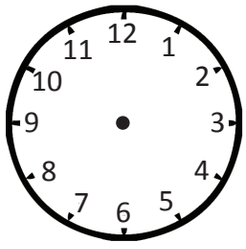
12 o'clock



2 o'clock



7 o'clock



4 o'clock



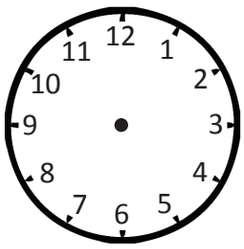
Covid-19

BOOK 26
SHEET 3

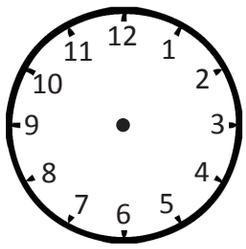
FITZROY MATHS

# Hours

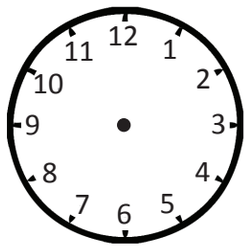
Draw the hour hand on each clock.



8 o'clock

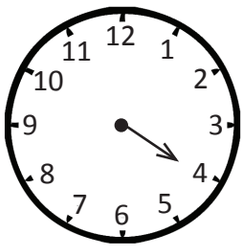


7 o'clock

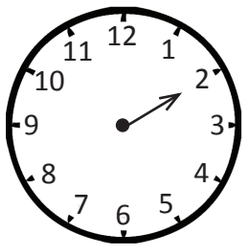


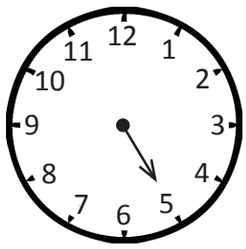
5 o'clock

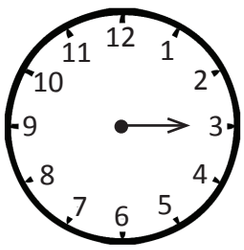
Write the time shown on each clock. (Only the hour hand is shown.)

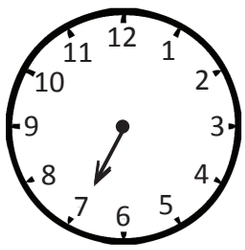


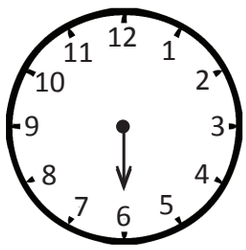
4 o'clock ✓

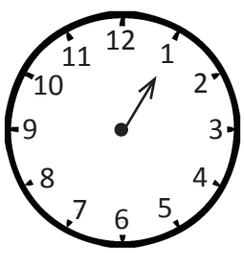


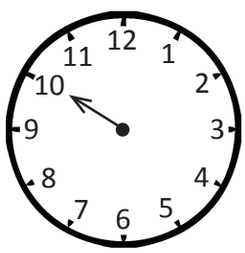


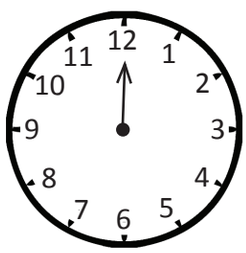














Covid-19

BOOK 26
SHEET 4

FITZROY MATHS

# The hour hand

The **hour hand** takes 1 hour to move from one number to the next.

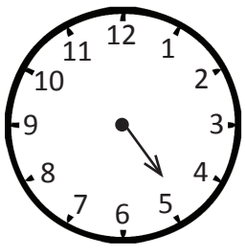
For example, exactly one hour of time passes while the hour hand is moving from 3 to 4.



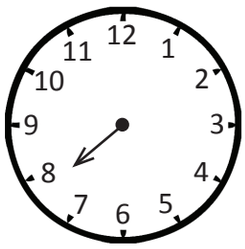
When the hour hand has moved half way between 3 and 4, we say it is **half past 3**.



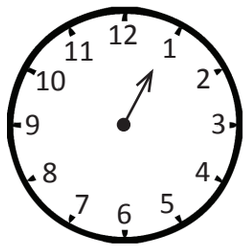
Look at the hour hand and write which hour comes **next**.



nearly 5 o'clock ✓

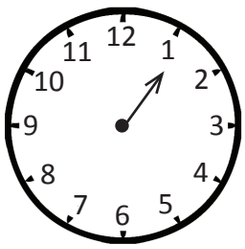


nearly __ o'clock

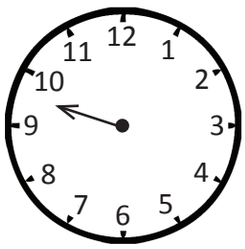


nearly __ o'clock

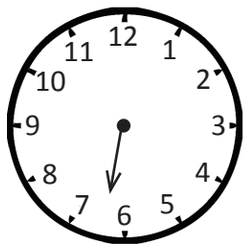
Look at the hour hand and write which hour is past.



past __ o'clock

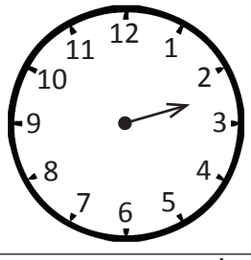


past __ o'clock

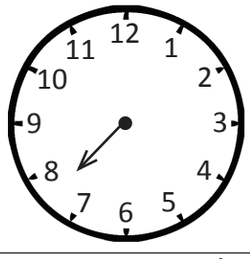


past __ o'clock

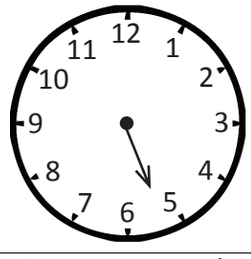
Look at the hour hand and write which hours the hour hand is between.



between __ and __



between __ and __



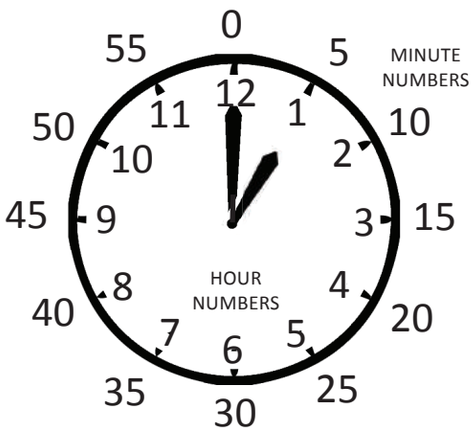
between __ and __



Covid-19

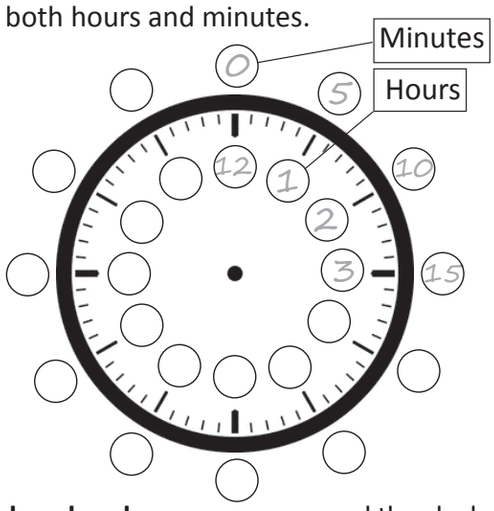
# Analog time

The longer hand is the **minute** hand. It tells us how many **minutes** past the hour it is.



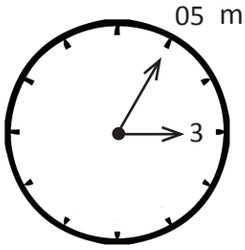

When the minute hand is on the 12, it is an **o'clock** time. (This clock shows 1 o'clock.)

Write the numbers around the clock to show both hours and minutes.



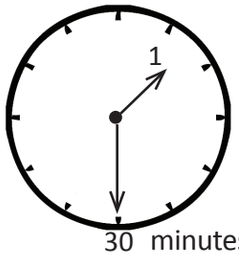

As the **long hand** moves once around the clock, the **short hand** moves more slowly, from one hour to the next.

Write the time shown on each clock. Write both the **hours** and the **minutes**.



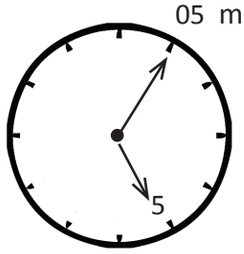

05 minutes

3 : 05 ✓



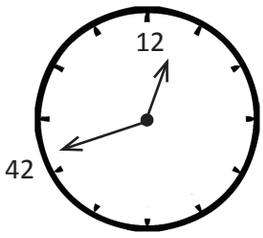

30 minutes

1 : 30 ✓

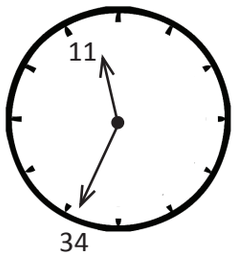



05 minutes

:

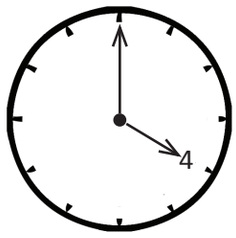



12 : 42 ✓



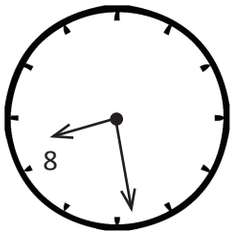

34

:



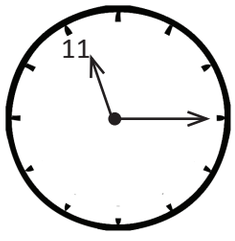

00

:



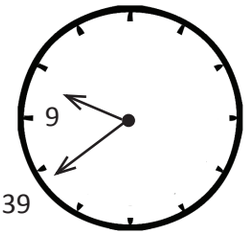

28

:




15

:




39

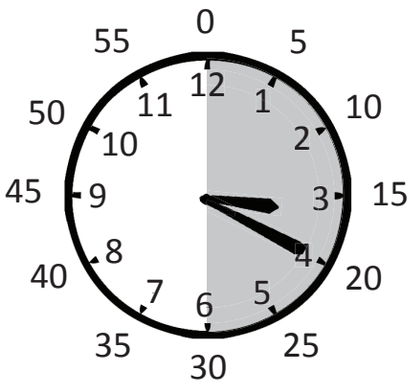
:



Covid-19

# Past

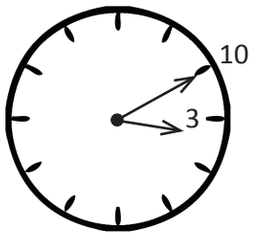
**REMEMBER**



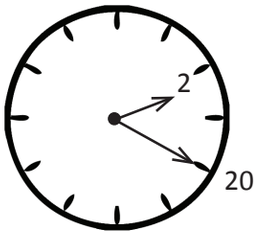

Look at the right side of the clock.
When the minute hand is here,
we say how many minutes **past** the hour.

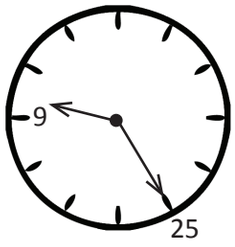
past = after

Write the time using “past”.




10 past …

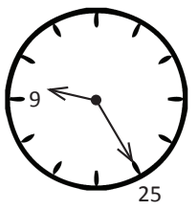


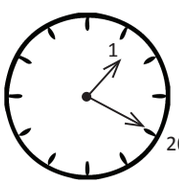



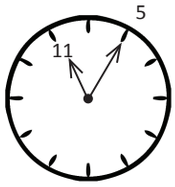

Write the time using “past”.

| | | | |
|---|---|---|---|
| 4:25 | 25 past 4 ✓ | 3:21 | |
| 1:10 | | 2:06 | |
| 6:17 | | 9:13 | |
| 11:05 | | 5:14 | |
| 12:23 | | 11:08 | |

Join the time to the matching clock.




25 past 9

5 past 11

20 past 1

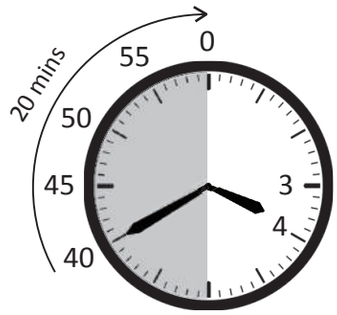


Covid-19

BOOK 26
SHEET 7

FITZROY MATHS

# To

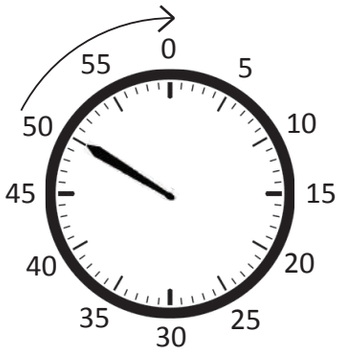



What do we say when the minute hand is on the left side of the clock?
When it is 3:40, we can say it is **20 to 4**.
We say how many **minutes to** the next **hour**.

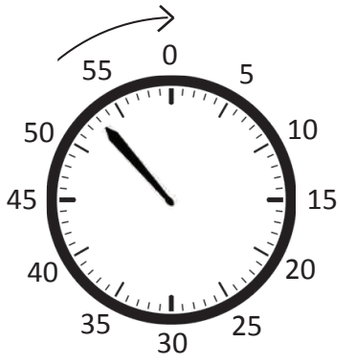
to = before

**To** is only used for minutes after "half past".

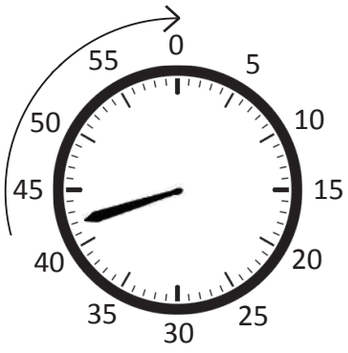
Look at the minute hand (the long hand) and count how many minutes it is to the next hour.



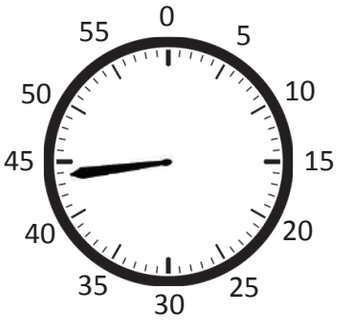
10 min to ✓



____ min to



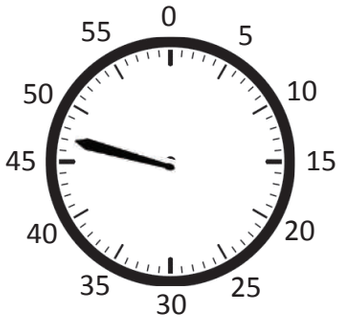
____ min to



____ min to



____ min to

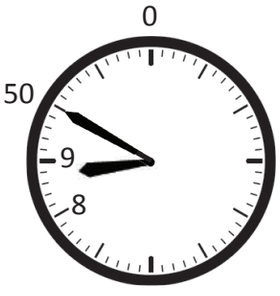


____ min to

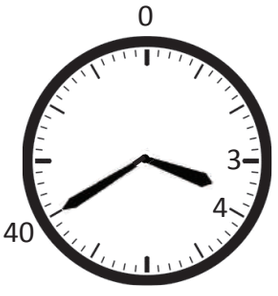
Look at the minute hand (the long hand) and write the time below.



5 to 7 ✓



___ to 9



____ to 4

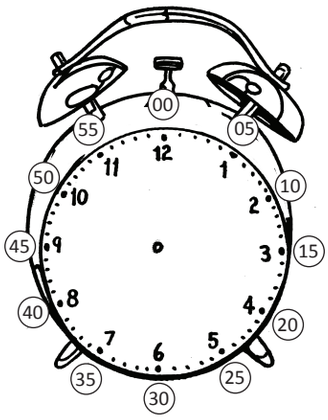


Covid-19

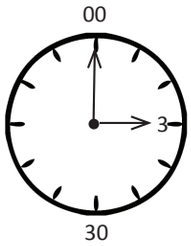
BOOK 26
SHEET 8

FITZROY MATHS

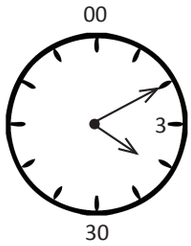
# Reading the time



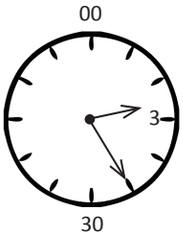

Use the numbers on the large clock to help you write the time in words.



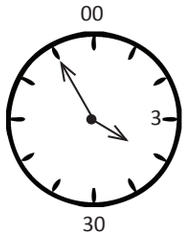

3 o'clock ✓



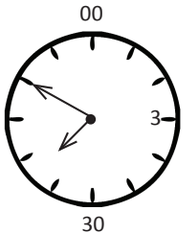

10 past 4 ✓



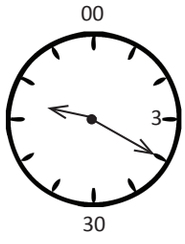

past



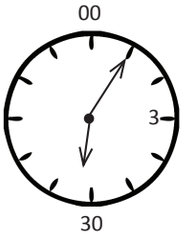

5 to 4 ✓



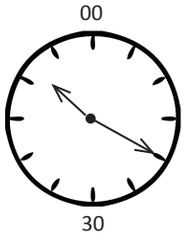

to

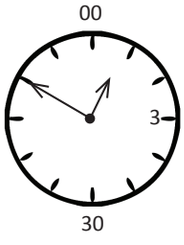


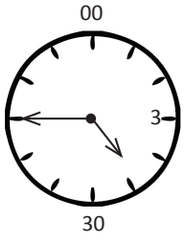

past

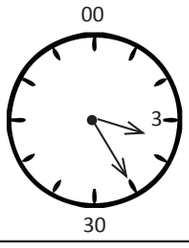



past

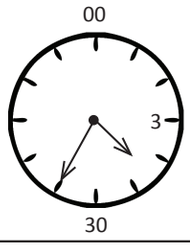


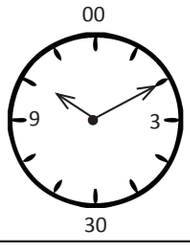



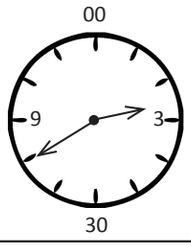



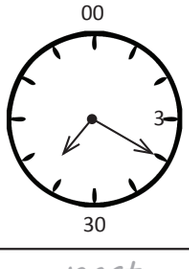




past

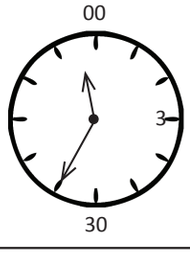


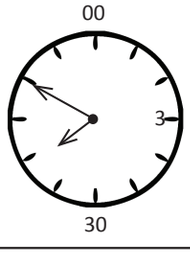



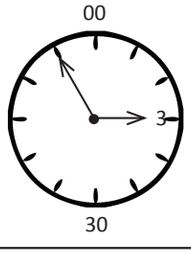




past





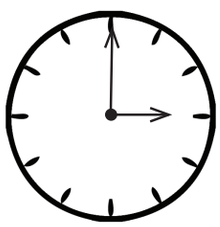
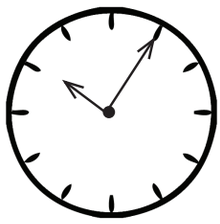
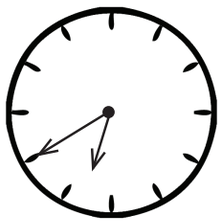
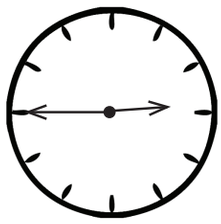

Covid-19

BOOK 26
SHEET 9

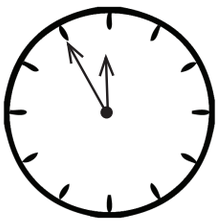
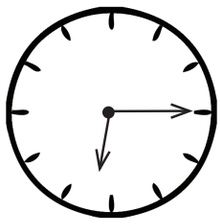
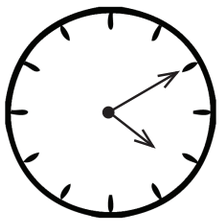
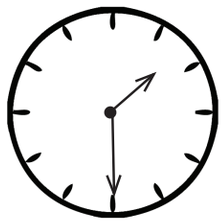
FITZROY MATHS

# Analog and digital

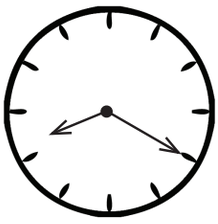
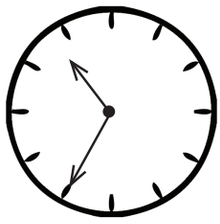
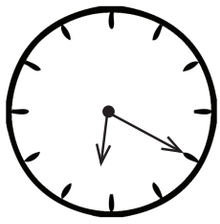
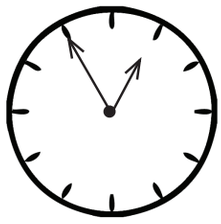
Write the time below each clock in digital form, using 0 if the 1st space is empty.

0 3 : 0 0 ✓ 1 0 : 0 5 ✓ : : :

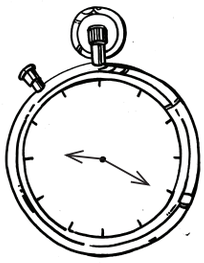





: : : :

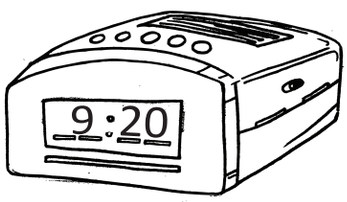
: : : :

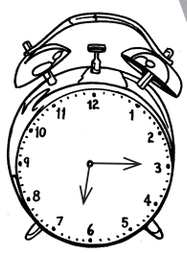
Join each clock to the watch that shows the same time.









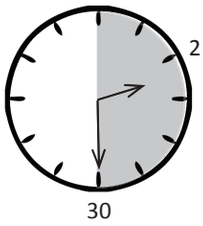




Covid-19

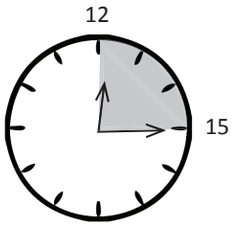
# Half and quarter

Half




30 minutes = half, because 30 **minutes** is **half of one hour**.
2:30 = **half past two**.
The minute hand has travelled **half** of the way around the clock.

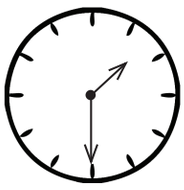
Quarter



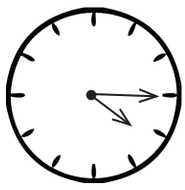

15 minutes = **one quarter of an hour**.
12:15 is a **quarter past twelve**.
The minute hand has travelled a **quarter** of the way around the clock.

**Quarter = 15 minutes.**
**Half = 30 minutes.**

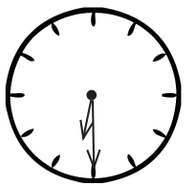
Write the correct word - **half** or **quarter** - to say the time.



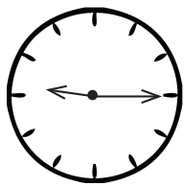
half ✓ past 1



_____ past 4

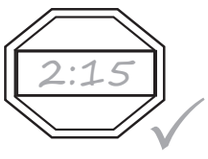


_____ past 6

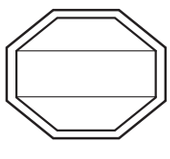


_____ past 9

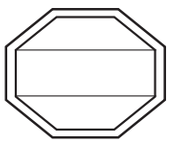
Write the correct digits. (This is digital time.)



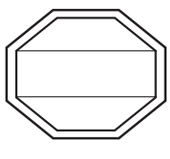

quarter past 2



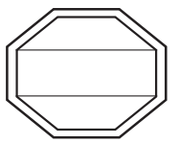
half past 5



half past 3



quarter past 11



quarter past 12



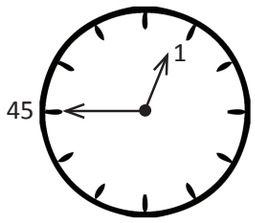
Covid-19

BOOK 26
SHEET 11

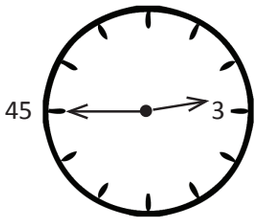
FITZROY MATHS

# Reading the time

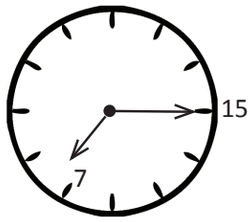
Write **past** or **to**.



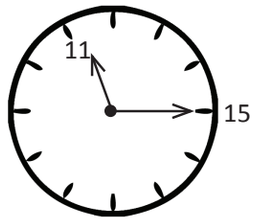

quarter *to* 1 ✓




quarter 3




quarter 7




quarter 11

Write **past** or **to** and the hour.




quarter *to* 4 ✓




quarter




quarter




quarter

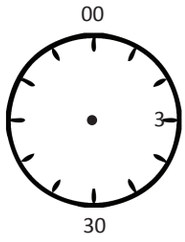
How many minutes are there in:

| | | |
|---|---|---|
| 1 hour: *60 mins* ✓ | 2 hours: | 3 hours: |
| 4 hours: | half an hour: | 2 and a half hours: |
| a quarter of an hour: | three quarters of an hour: | an hour and a quarter: |

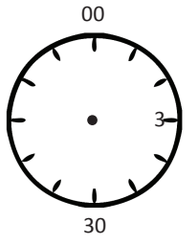
Draw the hands on the clock faces to show the time given.



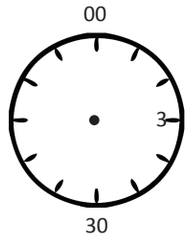

ten to ten ✓



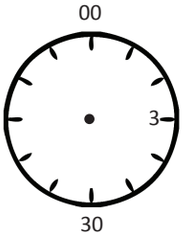

twenty to three



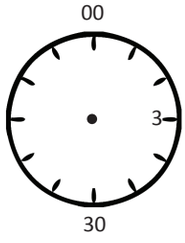

quarter to five



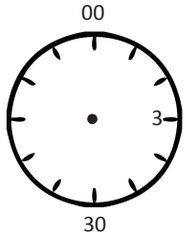

half past one



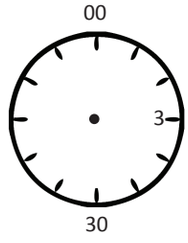

twenty-five past six




twenty to eight




ten to eleven



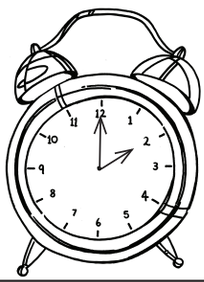

twenty past three



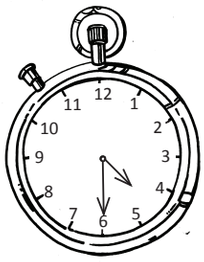
Covid-19

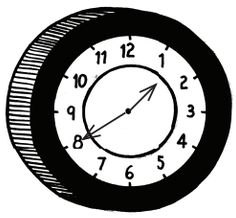
# Analog and digital

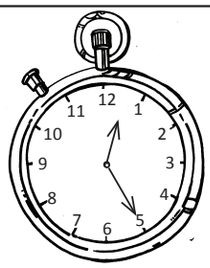
Write the time shown by each clock.

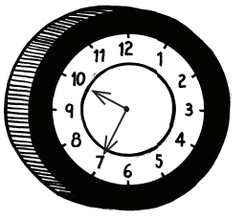


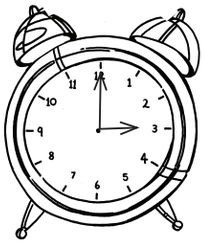
2 o'clock ✓

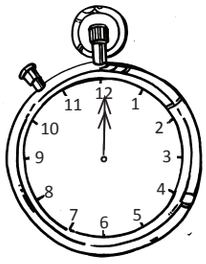




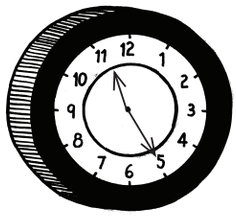












Join each clock to the watch that shows the same time.



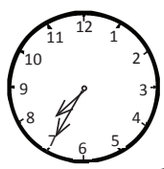


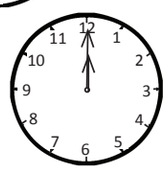


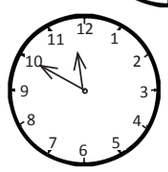


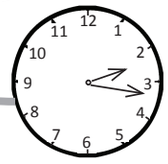














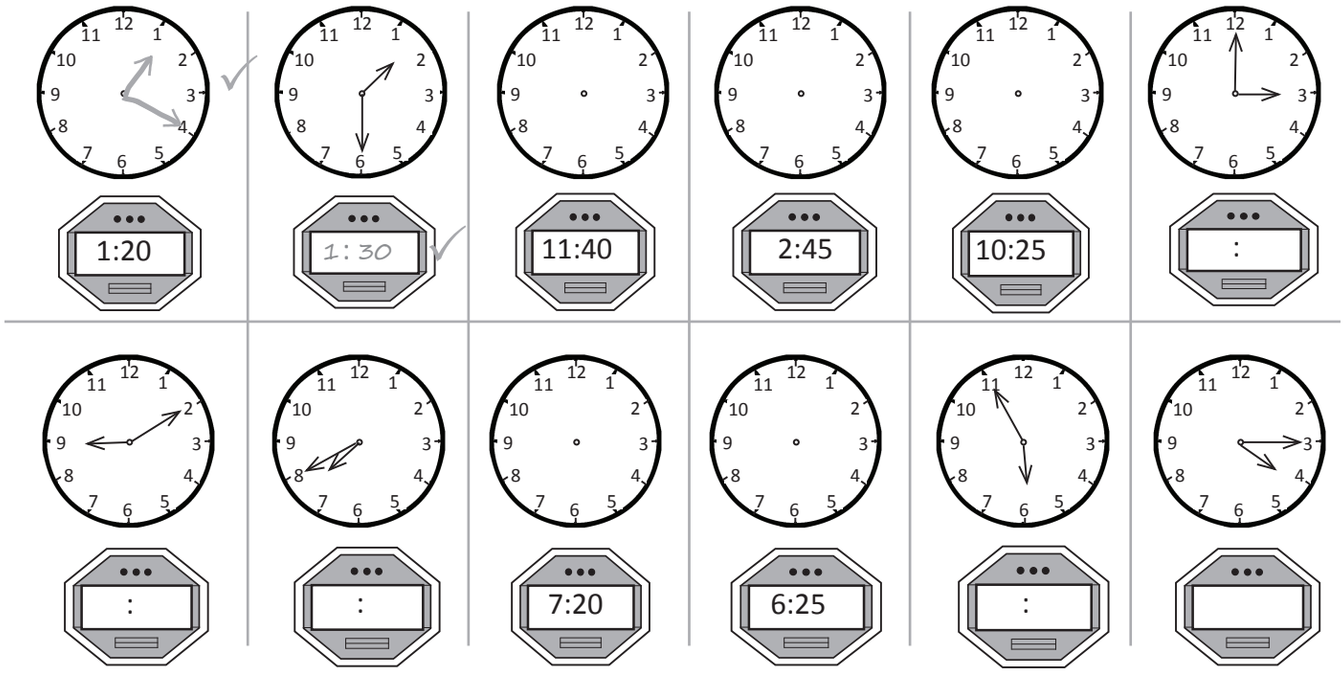
Covid-19

BOOK 26
SHEET 13

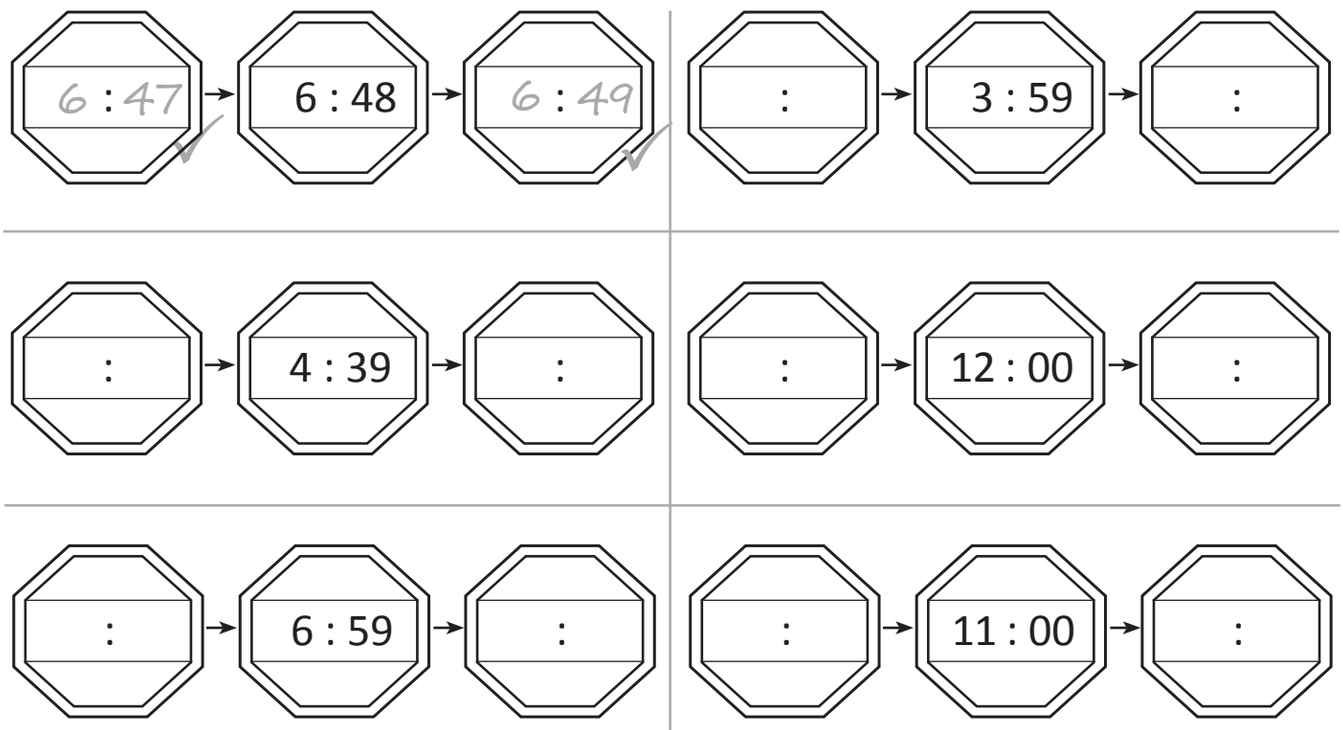
FITZROY MATHS

# Analog and digital

Make the analog and the digital clocks show the same time.




Write the time **one minute before** and **one minute after**.



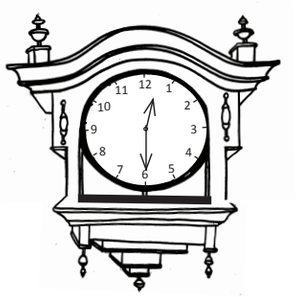



Covid-19

# Write the time

Write the time shown on each clock in words and numbers.

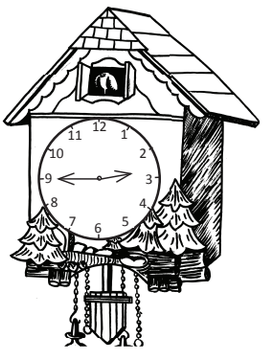


| half past two ✓ | past | past | past |
|---|---|---|---|
| 0 2 : 3 0 ✓ | : | : | : |

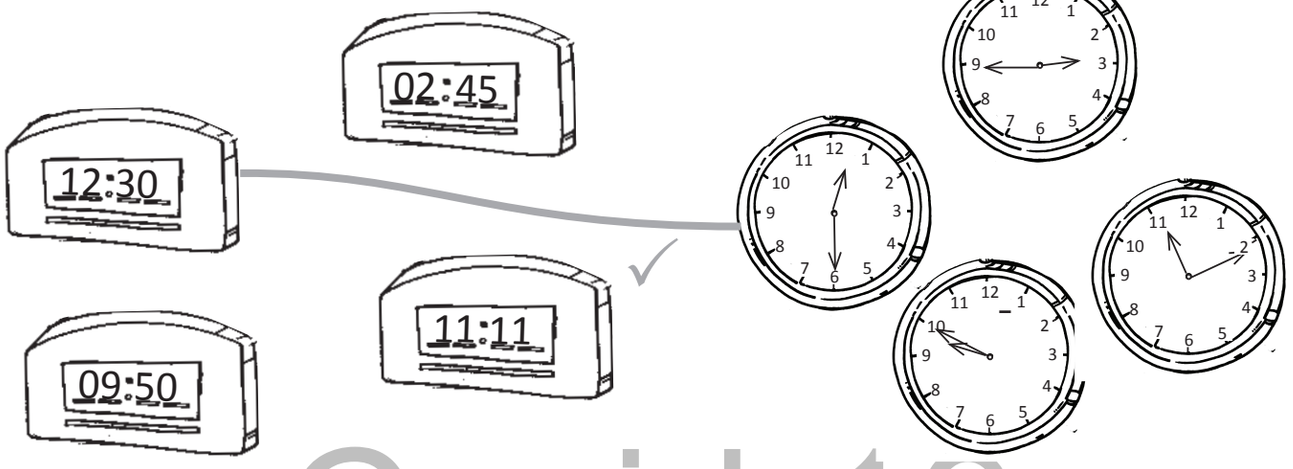
Use zeros in empty boxes.



| past ✓ | to | to | to |
|---|---|---|---|
| 1 0 : 1 5 ✓ | : | : | : |

Match the digital time with the analog time.





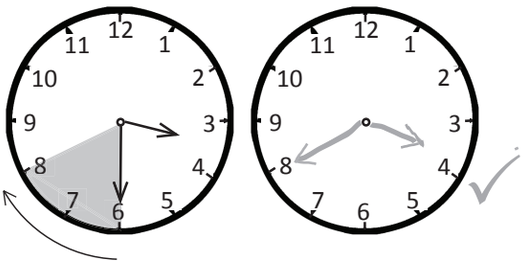

Covid-19

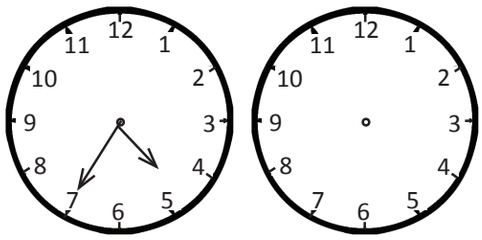
# Add 10 minutes

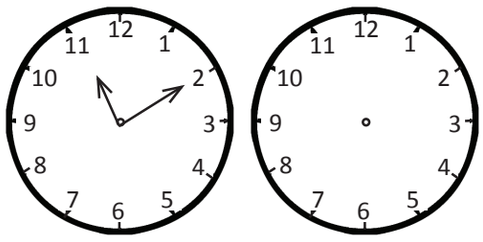
Add 10 minutes to each time. (Zeros written before the hour are optional.)

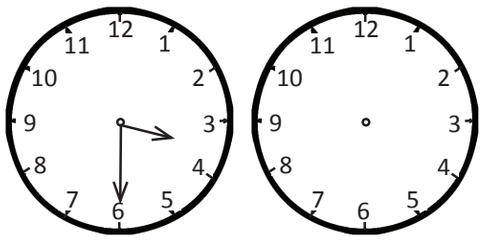
| | |
|---|---|
| 10:20 → 10:30 ✓ | 11:45 → ☐☐:☐☐ |
| 3:00 → ☐☐:☐☐ | 1:40 → ☐☐:☐☐ |
| 4:50 → ☐5:00 ✓ | 6:50 → ☐☐:☐☐ |
| 9:10 → ☐☐:☐☐ | 10:55 → ☐☐:☐☐ |
| 8:50 → ☐☐:☐☐ | 12:30 → ☐☐:☐☐ |

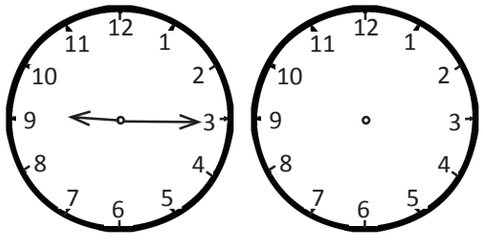
Add 10 minutes to each time by drawing a new hour hand and minute hand.

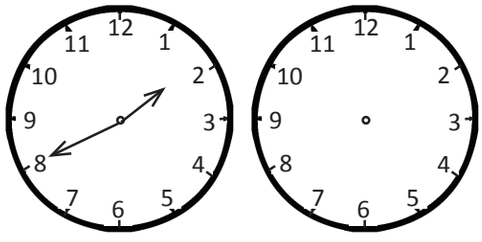














Covid-19

BOOK 26
SHEET 16

FITZROY MATHS

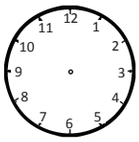
# Times of your day

Show a time for each activity on the analog clock and the digital clock.
(If not sure, guess the time.)

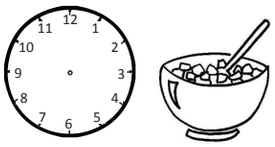
START HERE!



get out of bed

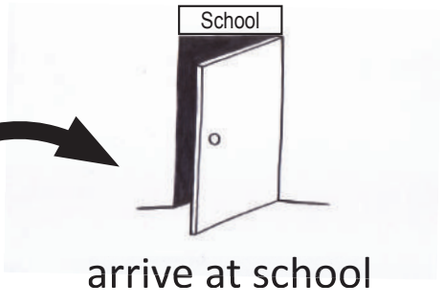


: ____

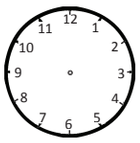


start breakfast

: ____



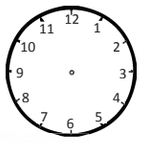

arrive at school



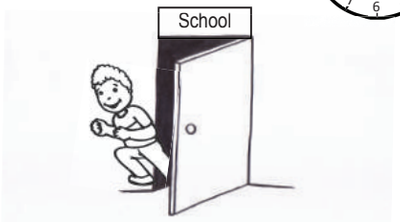
: ____

start lunch

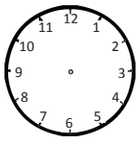




: ____



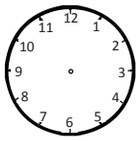

finish school



: ____

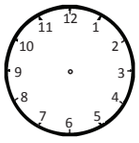
start dinner





: ____

go to bed





: ____

How long do you:

take to eat breakfast? ____ minutes.

take to get to school? ____ minutes.

get for your lunch break? ____ minutes.

have between finishing school and dinner? ____ hours and ____ minutes.

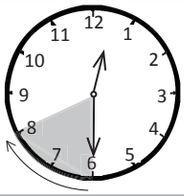
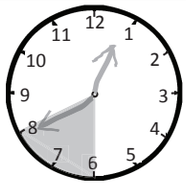
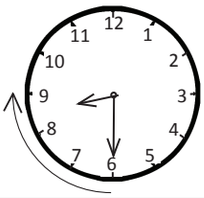
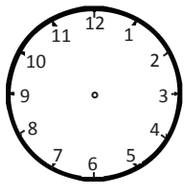
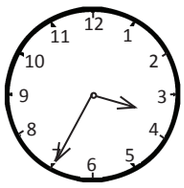
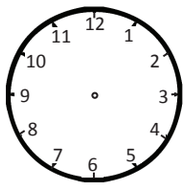
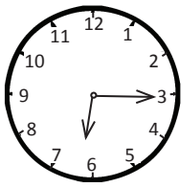
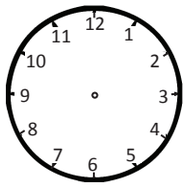
have between dinner and bedtime? ____ hours and ____ minutes.



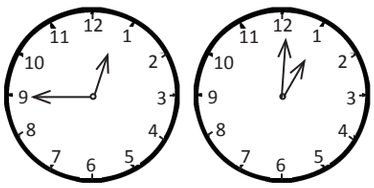
Covid-19

# Add and subtract

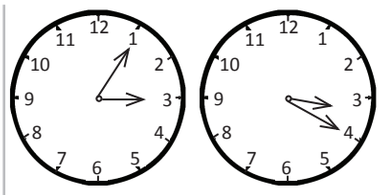
Show the finishing time on the second clock.

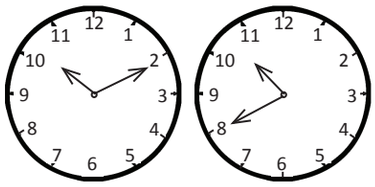
| | start | finish |
|---|---|---|
| Mary took 10 minutes for lunch. |  |  ✓ |
| Kim took 15 minutes to get to work. |  |  |
| Faye read a book for 20 minutes. |  |  |
| Robin cooked for half an hour. |  |  |

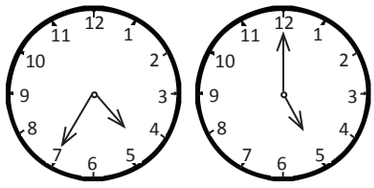
Write how many minutes there are between the 2 times.

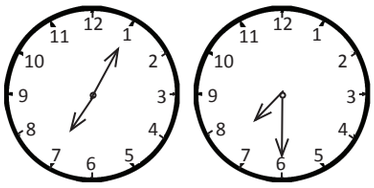


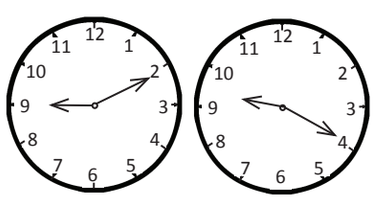
15 minutes ✓













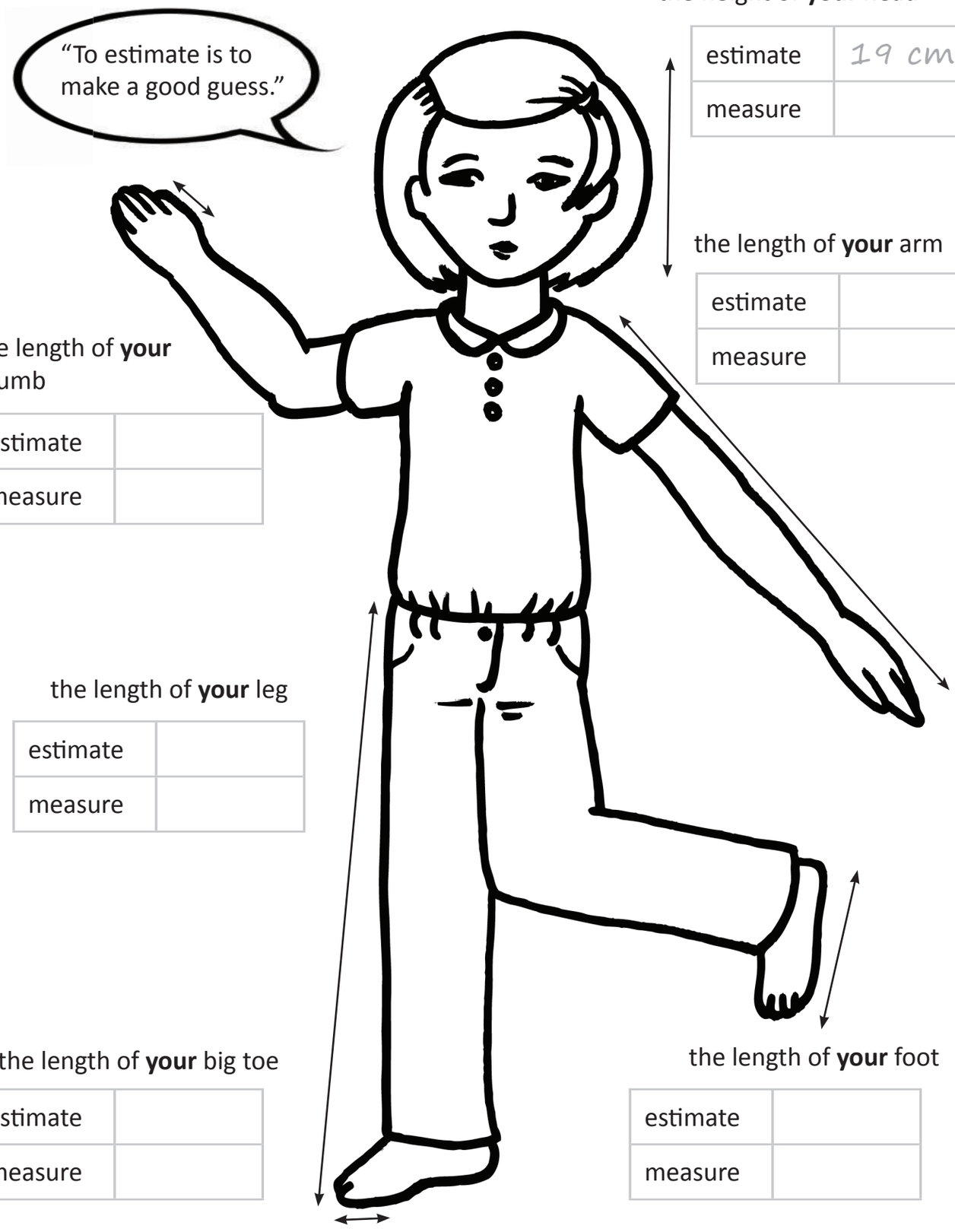
Covid-19

BOOK 26
SHEET 18

FITZROY MATHS

# Measuring body parts

Estimate and then measure these body parts. Use centimetres (cm). For example, write 7cm.




the height of **your** head

| | |
|---|---|
| estimate | 19 cm? |
| measure | |

the length of **your** arm

| | |
|---|---|
| estimate | |
| measure | |

the length of **your** thumb

| | |
|---|---|
| estimate | |
| measure | |

the length of **your** leg

| | |
|---|---|
| estimate | |
| measure | |

the length of **your** big toe

| | |
|---|---|
| estimate | |
| measure | |

the length of **your** foot

| | |
|---|---|
| estimate | |
| measure | |



Covid-19

BOOK 26
SHEET 19

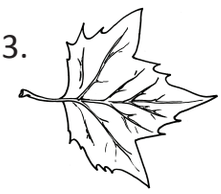
FITZROY MATHS

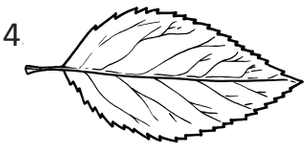
# Estimating

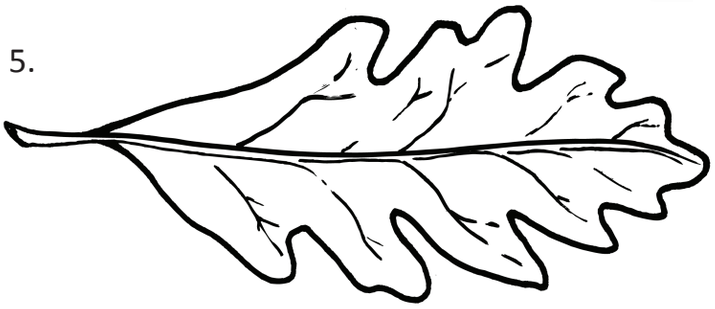
Estimate and then measure the length of these leaves. Use centimetres (cm).

1. 

2. 

3. 

4 

5. 

6. 

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| estimate | | | | | | |
| measure | | | | | | |

Estimate and then measure these objects. Use centimetres.

| item | estimate | measure |
|---|---|---|
| the length of your desk | cm | cm |
| the width of the door | cm | cm |
| the width of this page | cm | cm |
| the height of a table | cm | cm |
| the length of this page | cm | cm |
| the height of your chair | cm | cm |





Write **m** for metres or **cm** for centimetres. Which unit would you use to estimate these lengths?

a matchbox _____cm✓_____ a glue stick _____

a bus _____ a soccer field _____

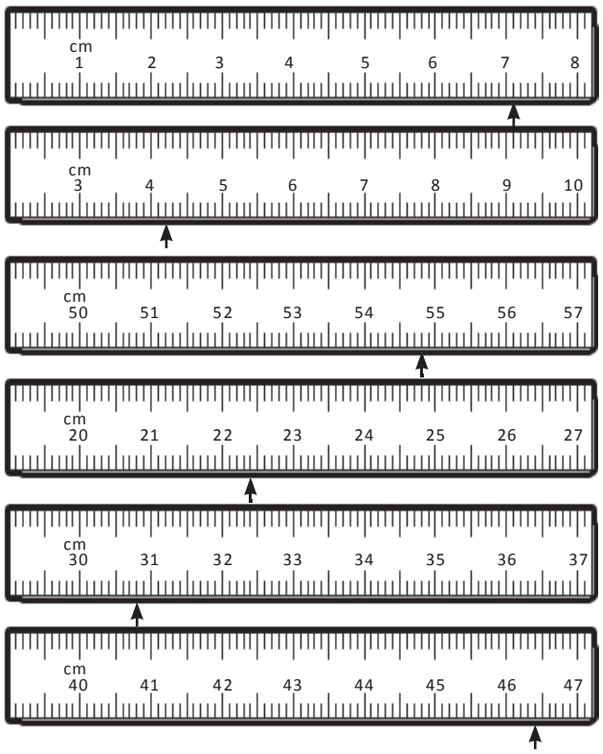
a book _____ the playground _____



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# Applied measurements

Write the length shown on each ruler in mm.




| mm |
|---|
| 71 mm ✓ |
| |
| |
| |
| |
| |

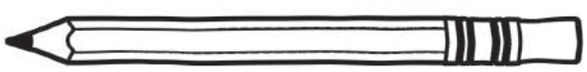
**100 centimetres = 1 metre. 100 cm = 1 m.**

Use a ruler to measure these objects.
Write the length of each thing in mm (millimetres). 1cm = 10mm.




100 mm ✓







Would you use centimetres (cm) or metres (m) to estimate these things? Choose **cm** or **m**.

| | cm | m |
|---|---|---|
| the width of a door | ✓ | |
| the height of a tower | | |
| the length of a field | | |
| the length of a bar of soap | | |
| the length of a pen | | |

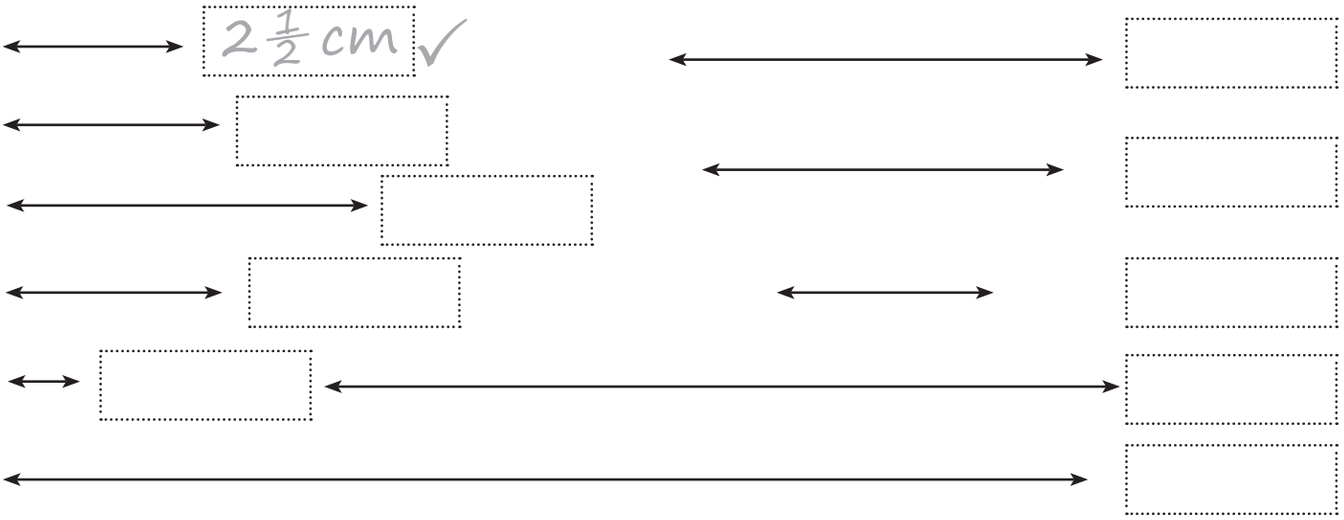
| | cm | m |
|---|---|---|
| the width of a chair | | |
| the depth of water in a jug | | |
| the length of a garden hose | | |
| the length of a necklace | | |
| the height of a baby | | |



Covid-19

# Length

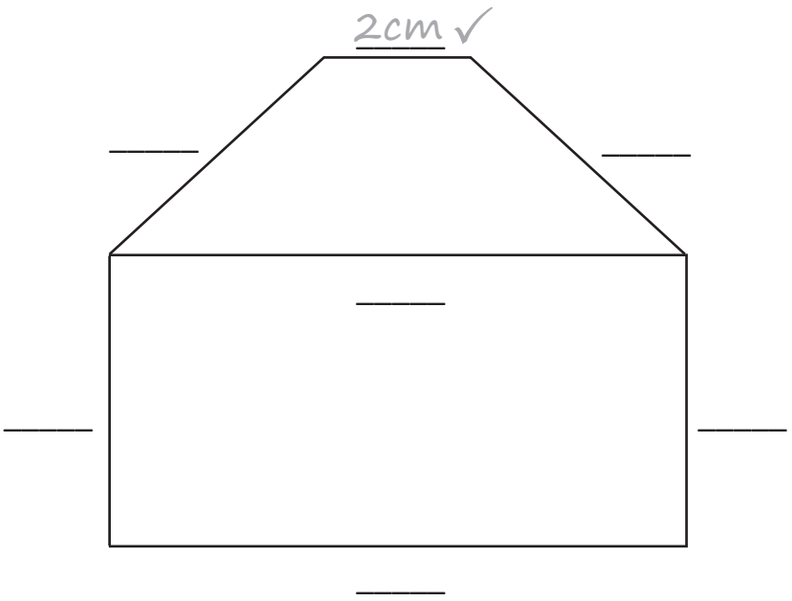
Measure these lines with a ruler. Write how many cm long each line is:




Answer these without using your ruler. Circle your choice.

| | | | | |
|---|---|---|---|---|
| Mr Sumit's hand is | 5cm | 10cm ✓ | 24cm | wide |
| my teacup is | 3 cm | 8 cm | 20 cm | high |
| my new pencil is | 18 cm | 42 cm | 65 cm | long |
| a normal school ruler is | 10 cm | 20 cm | 30 cm | long |
| a normal school ruler is | $2\frac{1}{2}$ cm | $5\frac{1}{2}$ cm | $10\frac{1}{2}$ cm | wide |
| my uncle Amit is | 50cm | 180 cm | 300 cm | tall |
| the top of the kitchen table is | 5 cm | 35 cm | 75 cm | above the floor |
| the local pool is | 20 cm | 200 cm | 2000 cm | deep when full |

Every line here is either
2 cm, 4 cm or 8 cm long.
Write the measurements
without using a ruler.

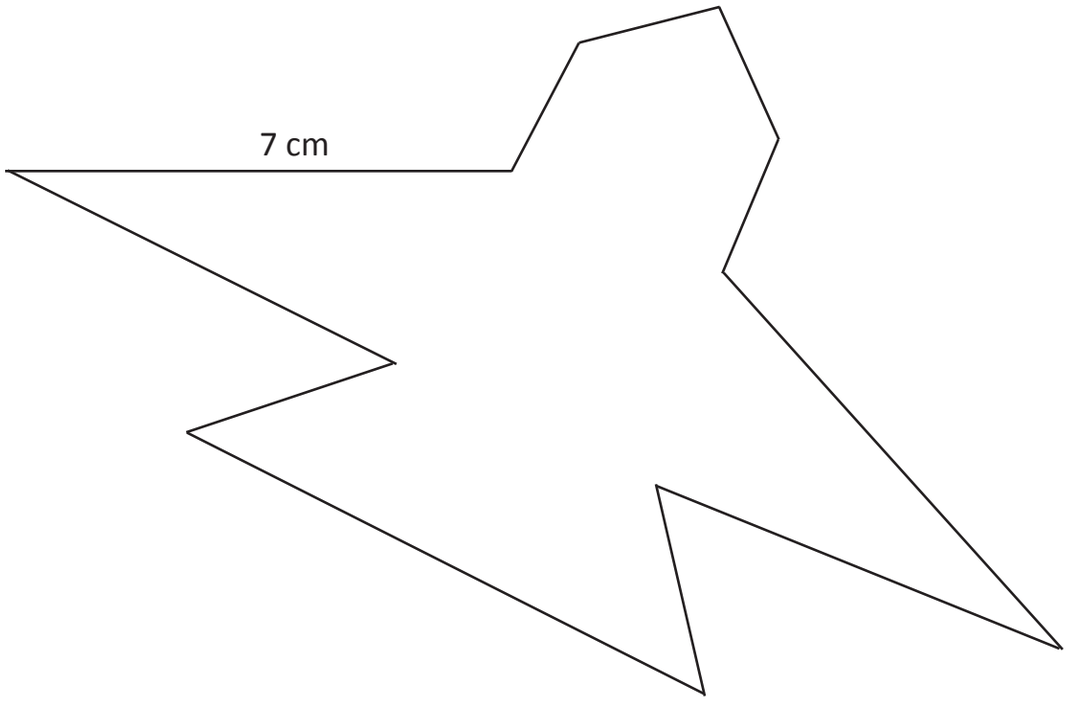





Covid-19

# Perimeter

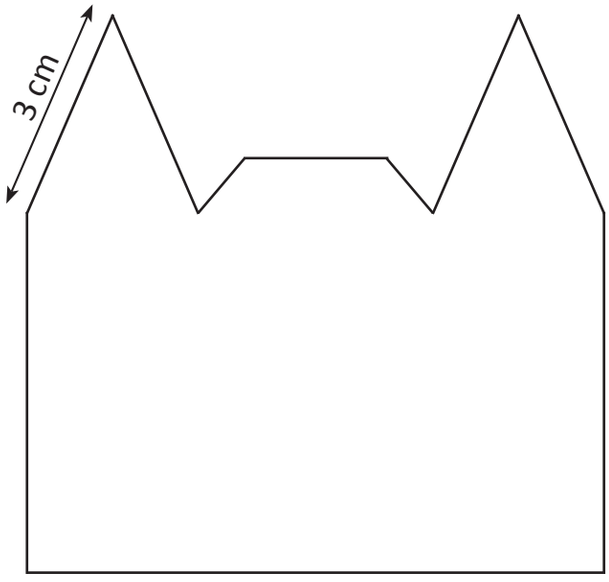
Measure these lines with a ruler. Write the lengths next to the lines.




The **perimeter** of a shape is the total length around it.

The perimeter of this shape is _____ cm.

Measure and write the length of each line in cm.




Now add the lengths to get the perimeter. The perimeter of this castle is _____ cm.



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BOOK 26
SHEET 23

FITZROY MATHS

# Litres

**REMEMBER**

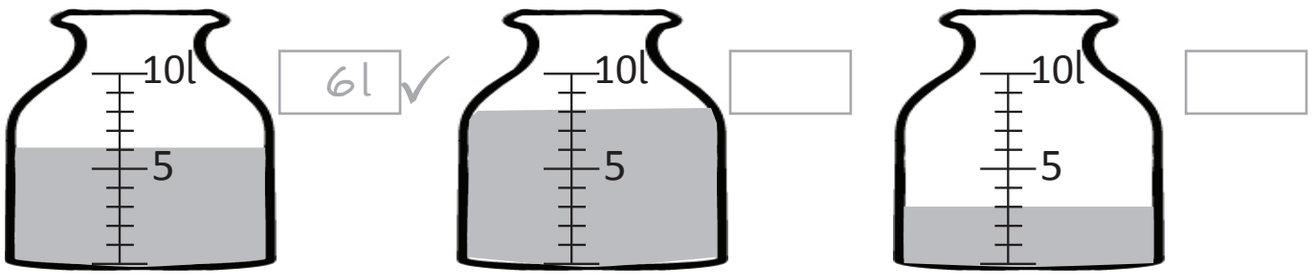
We use **litres** to measure amounts of **liquid**.

1 litre is 1000ml

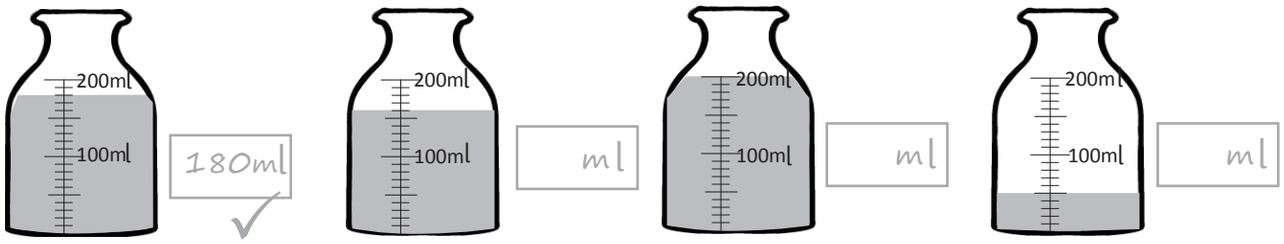
1l = 1000 ml

| | |
|---|---|
| millilitres | ml |
| litres | l |

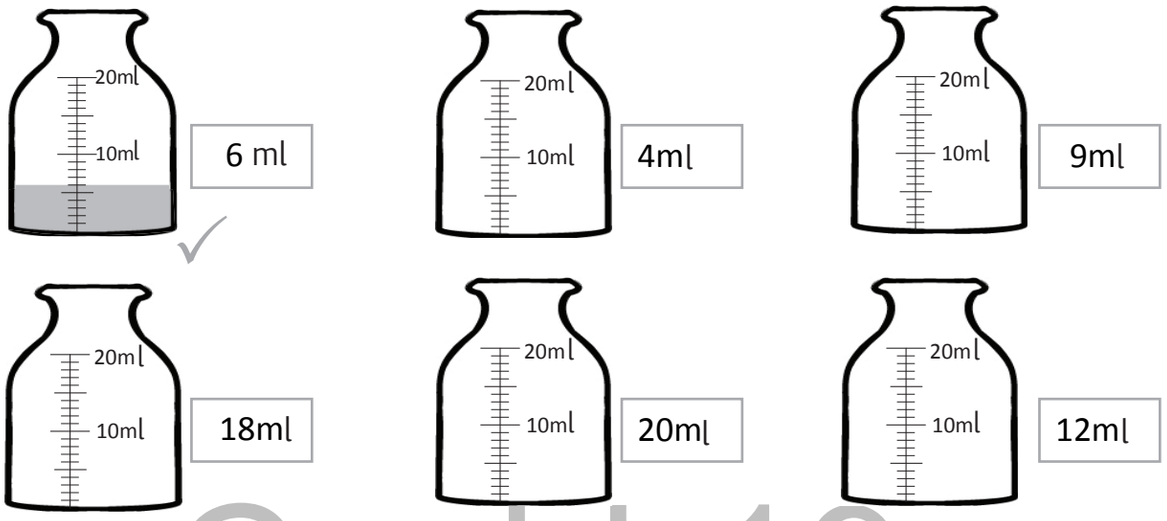
These are big jugs. They can hold 10l. How much water is there in each one?




Here are smaller jugs. These can hold 200ml. How much water is there in each one?




Draw the level of water in these small jugs.






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# Temperature

Water freezes at 0˚C. This is called 0 degrees.

Water boils at 100˚C. This is called 100 degrees.

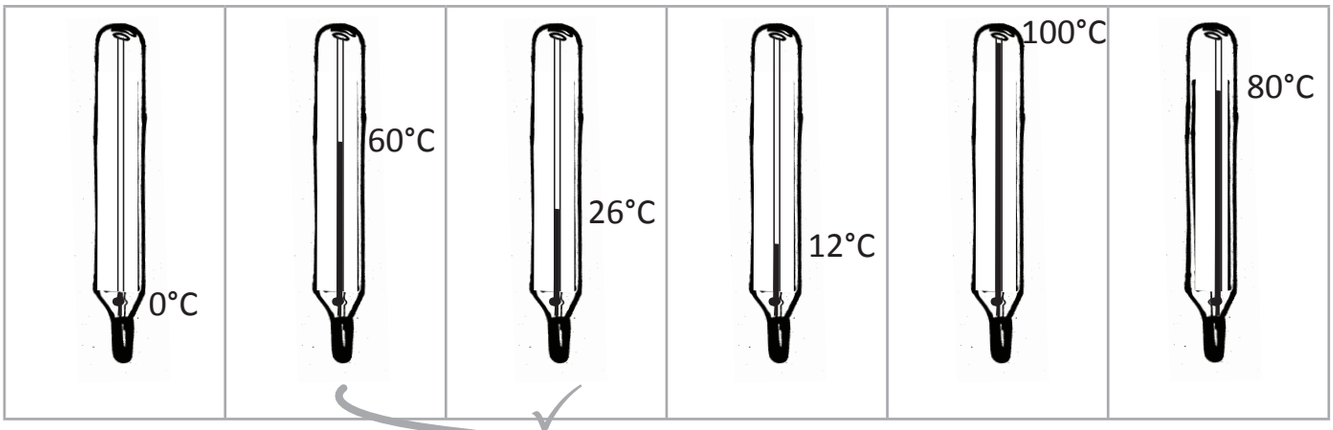
Use these words to make a scale from freezing to boiling.

boiling ✓ very hot cold hot freezing ✓ cool warm very cold

| ***Temperature*** | ***Description*** |
|---|---|
| 100˚C | boiling ✓ |
| | |
| | |
| | |
| | |
| | |
| | |
| 0˚C | freezing ✓ |



Join the thermometers to the matching words.



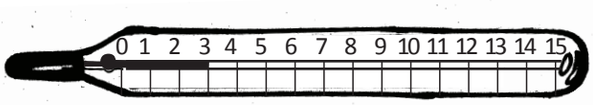

warm weather | freezing water | hot soup | hot cup of tea | cool day | boiling water



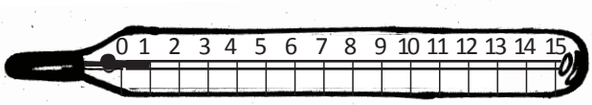
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# Temperature

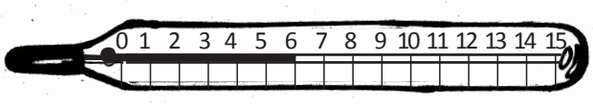
What temperature does each thermometer show?



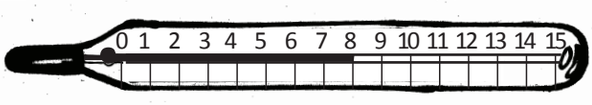

The temperature is _____ degrees.



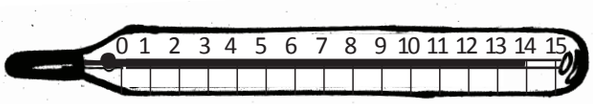

The temperature is _____ degree.



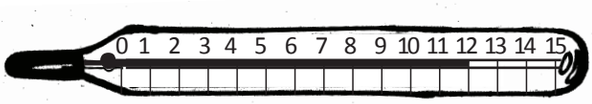

The temperature is _____ degrees.




The temperature is _____ degrees.



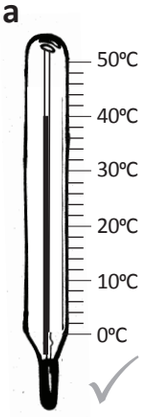

The temperature is _____ degrees.




The temperature is _____ degrees.

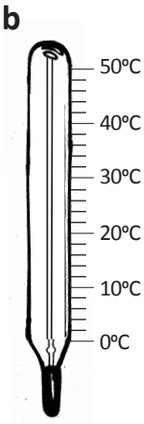
On each thermometer, colour the mercury (the central line) to match the given temperature.

**a**



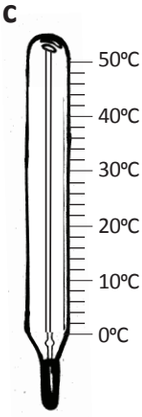

40°C

**b**



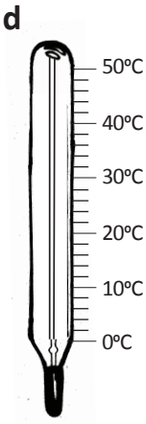

28°C

**c**



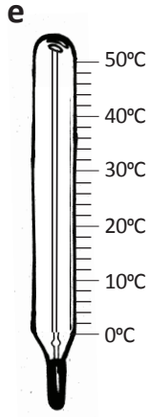

36°C

**d**



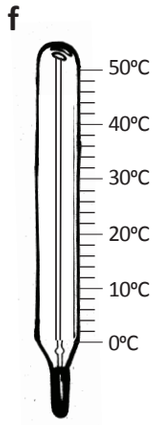

14°C

**e**



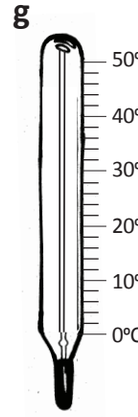

8°C

**f**



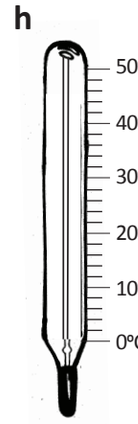

33°C

**g**




27°C

**h**




15°C

Match each thing below with its most likely temperature.

| | |
|---|---|
| a cold glass of milk ● | ● 40°C |
| a very hot day ● | ● 90°C |
| a warm day ● | ● 70°C |
| a bowl of hot soup ● | ● 26°C |
| a pot of very hot tea ● | ● 4°C |
| a very cold day ● | ● 100°C |
| water boiling ● | ● 15°C |
| body temperature ● | ● 80°C |
| a cup of coffee ● | ● 3°C |
| a cool day ● | ● 37°C |



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# Angles

When 2 lines meet, they make an angle:

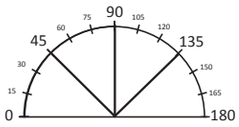


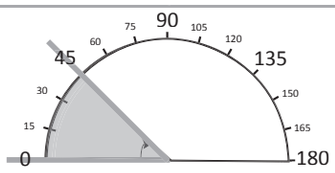
There are smaller angles  and larger angles 

A square corner is called a **right** angle:

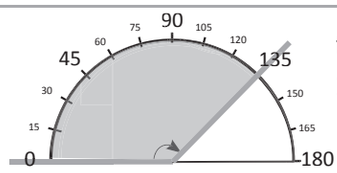


To measure angles we use a **protractor**.
The units are called degrees ( ° ).



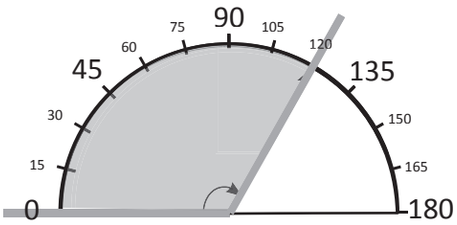




this shows 45°

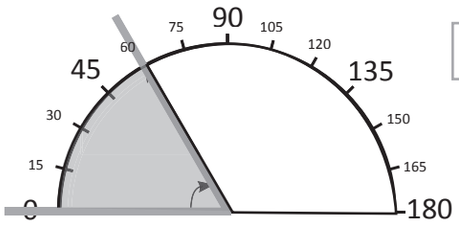


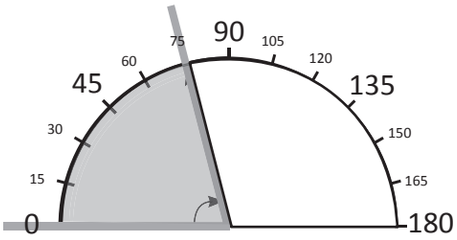

this shows 135°

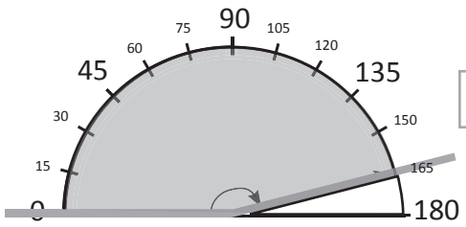
Look at the these protractors and measure the angles.




120 ° ✓




Join the angles to the degrees.



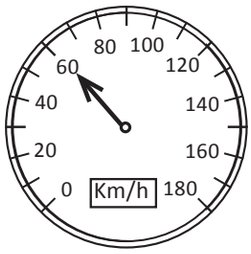
135° 45° 15° 90°



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# Measurement

Circle the object which measures temperature.

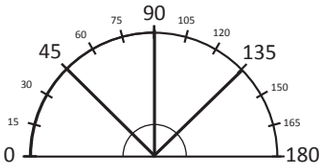


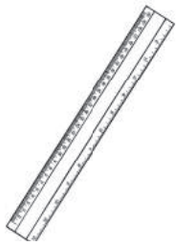





Circle the **two** objects which measure length.

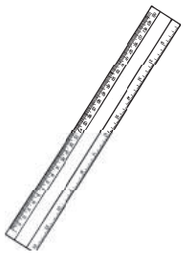


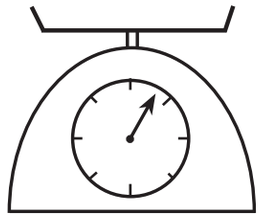


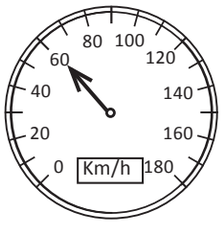
Circle the object which measures amount of liquid (volume).

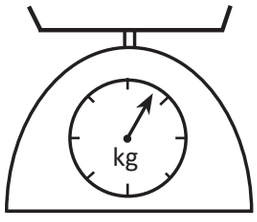






Circle the object which measures weight.






**REMEMBER**

A **gram is** a small unit of weight.

1000 grams = 1 kilogram (kg)
1000 kilograms = 1 tonne (t)



Covid-19

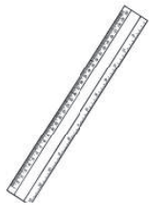
# Kilometres

Join each object to the matching units of measurement.

measuring jug



ruler



thermometer



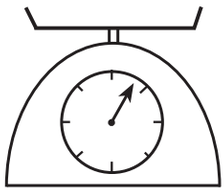
degrees of temperature (°C)

millilitres (ml)

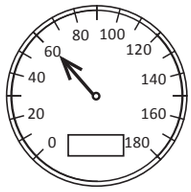
centimetres (cm)

---

scales



speedometer




tape measure



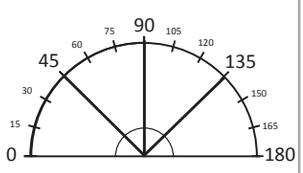
kilometres per hour (km/h)

centimetres (m)

grams (g)

---

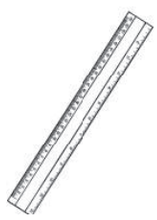
protractor




thermometer



ruler



degrees of angle (°)

centimetres (cm)

degrees of temperature (°C)

**REMEMBER**

A speedometer measures speed.
The unit of speed for cars is **kilometres per hour** (km/h).

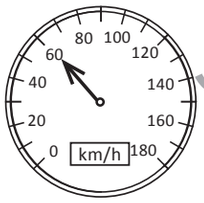


Covid-19

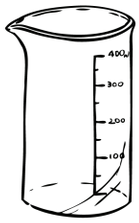
# Measurement

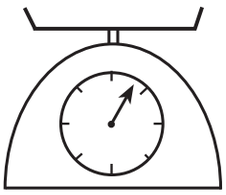


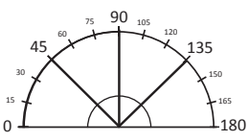
Join each object to its name and the correct unit of measurement.

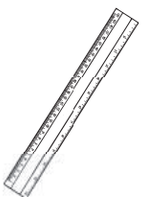






measuring jug

speedometer

thermometer

ruler

protractor

scales

degrees of temperature (°)

millilitres (ml)

kilometres per hour (km/h)

centimetres (cm)

grams (g)

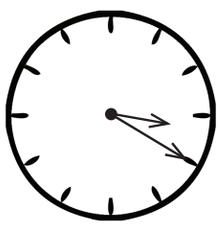
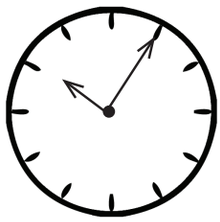
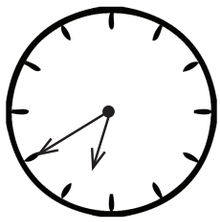
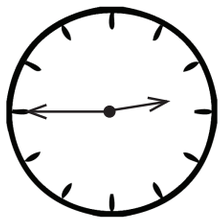
degrees of angle (°)



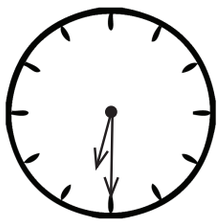
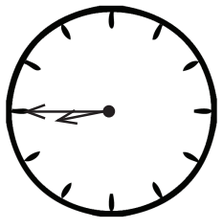
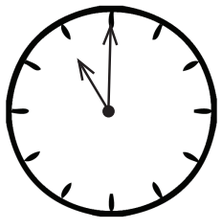
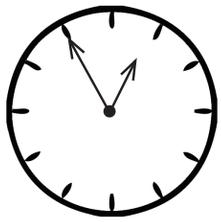
Covid-19

# Revision

Convert analog times to digital. (The zero before the hour is optional.)

OPTIONAL 3 : 2 0 ✓

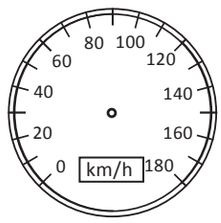





Mark the measurements on the pictures.

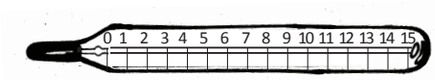
11 cm



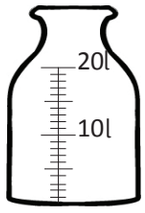

120 km/h



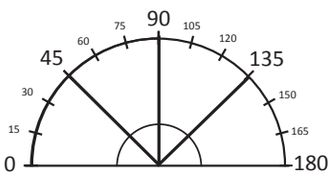

8°



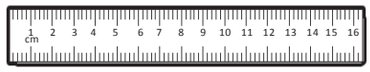

12 l




60°




8 cm

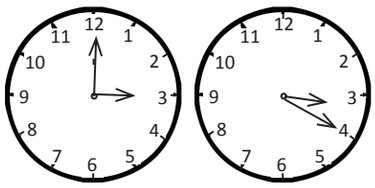


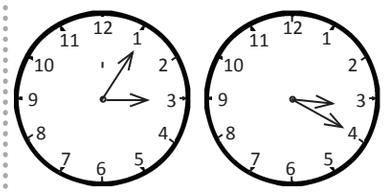


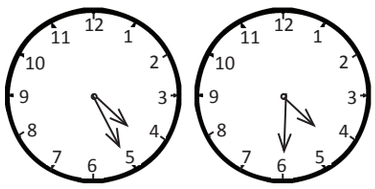

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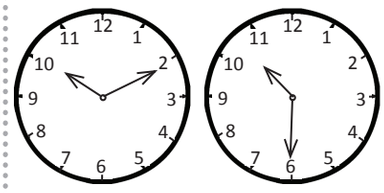
# Test

Write how many minutes between the 2 times.





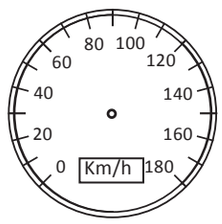


Mark the measurements on the pictures.

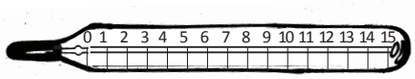
3cm



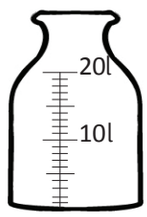

40km/h



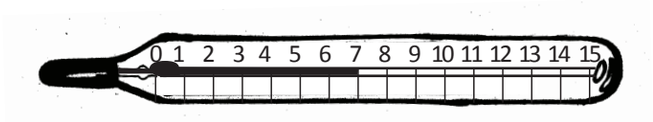

13°



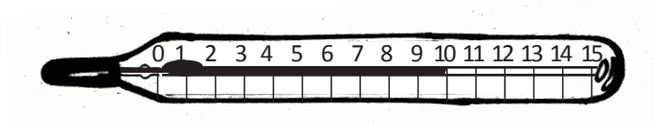

5 l




Write the temperature shown on each thermometer.




The temperature is _____ degrees.




The temperature is _____ degrees.



Covid-19

# Progress Report

_____

*Name of school*

*This is to report that*

_____

*Name of student*

*has completed the first book*
*of the Fitzroy Maths Dark Blue Set (26-30)*

## *Book 26*

*and has passed the final test*
*which is a sampling of the skills contained in this Work Book.*

*Book 26 includes these skills:*

- *reading digital time and analog time*
- *using "to" and "past" for reading time*
- *adding minutes*
- *learning about metres, litres and grams*
- *learning degrees of temperature*
- *learning degrees of angles*
- *identifying instruments for measurements*

*Signature of Teacher*_____ *Date*_____



Covid-19