

Length, mass and capacity – Checkpoint Sec 1 Math

1. No.2

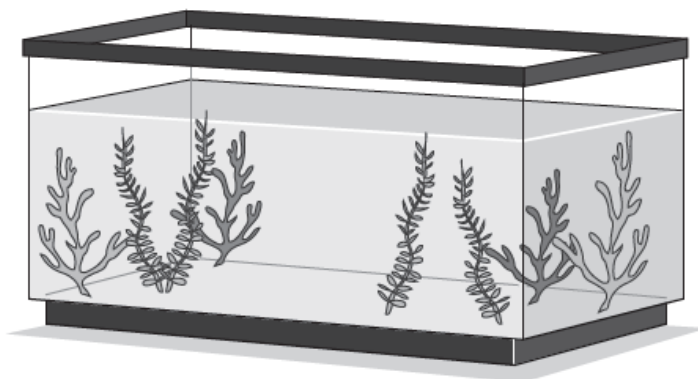
Chen has three pieces of metal.

The masses are 6 kg, 3.3 kg and 0.75 kg.

Work out the total mass, in kilograms.

..... kg [1]

2. No.7



Samira is measuring the capacity of a fish tank.

Draw a ring around the most suitable unit for this measurement.

mm³ m³ l ml

[1]

3. No.8

Write these measurements in order of size from smallest to largest.

540m

504cm

5.04km

5400mm

.....
smallest

.....
largest

[1]

4. No.11

Carlos builds a wooden frame.



NOT TO
SCALE

He needs two 45 cm lengths of wood and two 60 cm lengths of wood.
Carlos has a 2 metre length of wood.

Tick (✓) to show if Carlos has enough wood to build the frame.

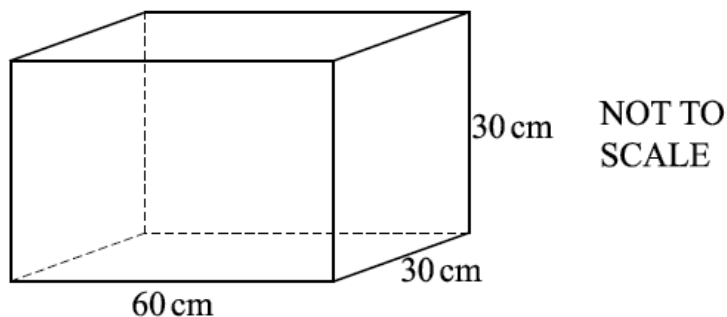
Yes ☐ No ☐

Show your working.

[2]

5. No.23

A fish tank in the shape of a cuboid has length 60 cm, depth 30 cm and height 30 cm.



(a) Find the capacity of the fish tank in litres.

..... l [2]

(b) The fish tank contains 47.7 litres of water.
Find the height of the water.
Give your answer in centimetres.

..... cm [1]

6. **No.9**

Convert 160 kilometres into miles.

..... miles [1]

7. **No.11**

Tick (✓) to show if each of these statements is true or false.

One has been done for you.

	True	False
1 m = 100 cm	☒	☐
1 mm = 0.01 cm	☐	☐
1 kg = $\frac{1}{1000}$ g	☐	☐
1 tonne = 1000 kg	☐	☐

[1]

8. **No.13**

Lily pours 5 litres of water into glasses.

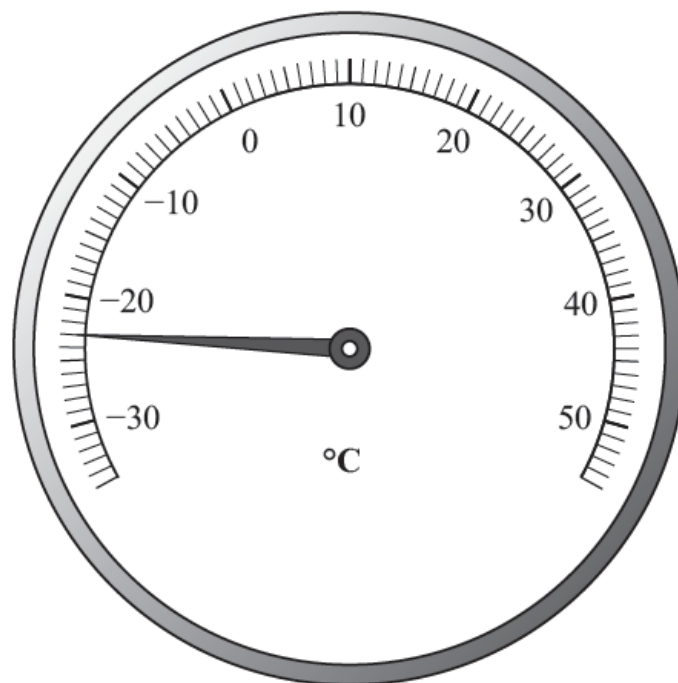
Each glass holds 225 millilitres.

Calculate how many glasses Lily can fill completely.

..... [1]

9. No.1

Write down the temperature shown on this scale.



.....°C [1]

10. No.5

Choose from these units to give the most appropriate unit of measurement for each item.

g kg m l ml m² cm²

The area of a classroom floor.

.....

The mass of a child.

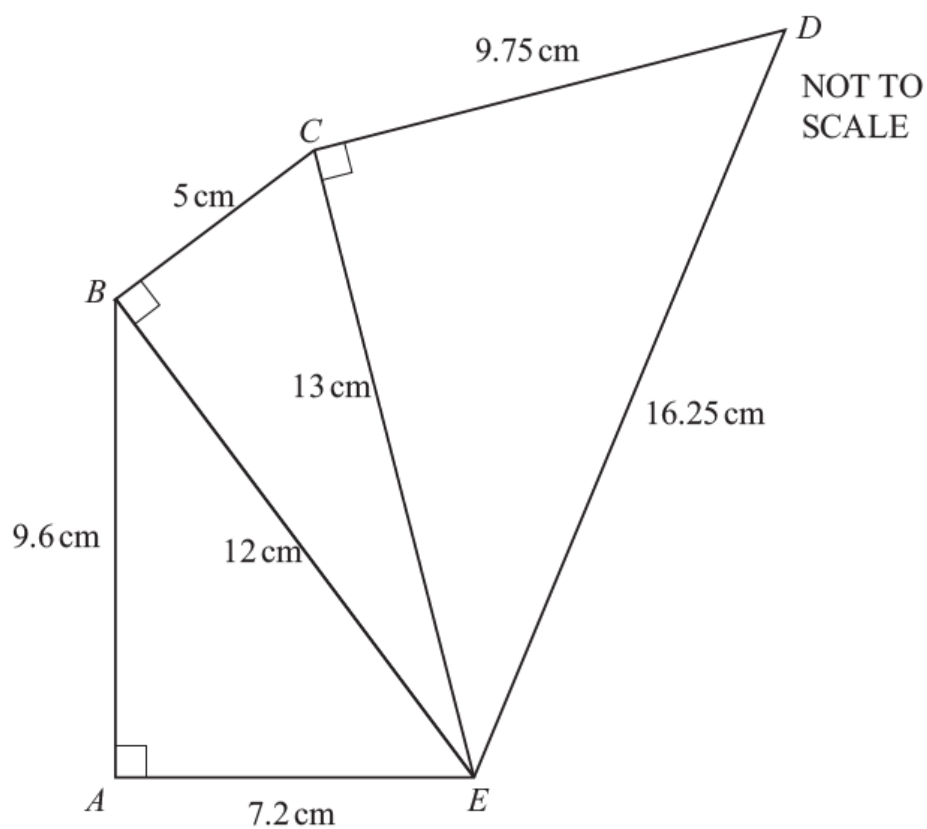
.....

The amount of water in a swimming pool.

.....

[1]

11. No.8

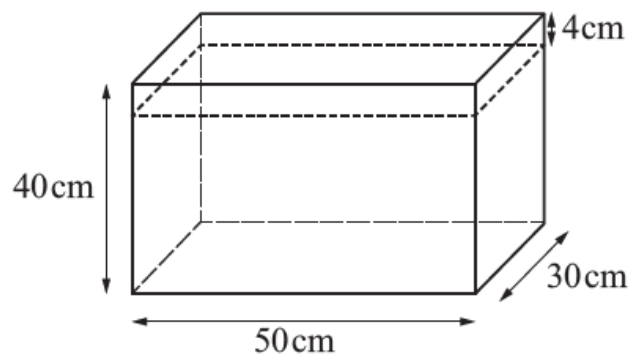


Write down the length of the hypotenuse of triangle BCE .

..... cm [1]

12. No.27

The diagram shows a fish tank.



NOT TO
SCALE

The fish tank has a capacity of 60 litres.

Lily uses a 2000 ml jug to put water in the fish tank.

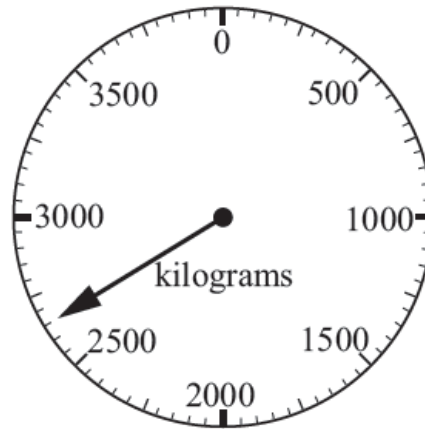
She stops when the water is 4 cm from the top.

Work out the number of jugs of water that Lily uses.

[3]

13. No.24

The scale shows the mass of a van.

Write down the mass of the van in **tonnes**.

.....tonnes [1]

14. No.20

(a) Convert 0.003 m^3 into cubic centimetres...... cm^3 [1]

(b) Convert your answer to part (a) into litres.

.....litres [1]

15. No.15

Complete the gaps in these statements.

The first one has been done for you.

$$1250 \text{ metres} = \underline{1.25} \text{ kilometres}$$

$$\underline{\hspace{1cm}} \text{ centimetres} = 45.2 \text{ millimetres}$$

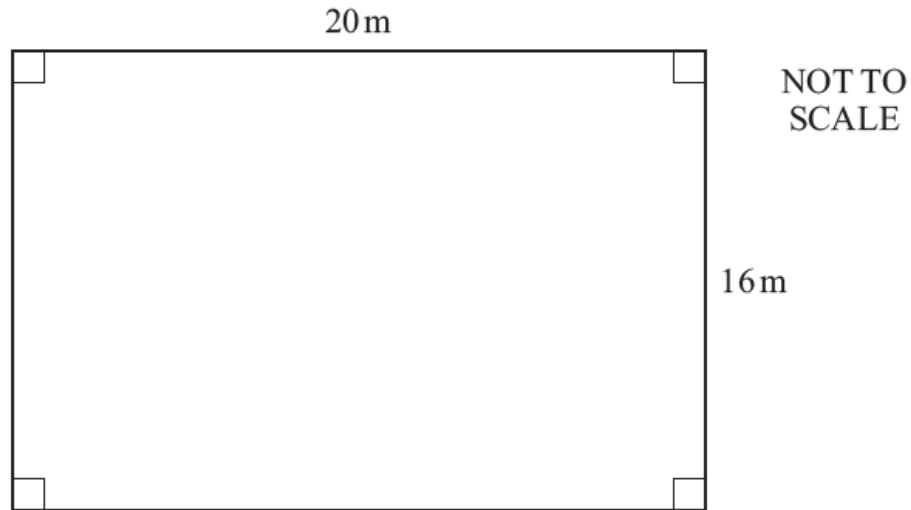
$$0.604 \text{ litres} = \underline{\hspace{1cm}} \text{ millilitres}$$

$$1.87 \underline{\hspace{1cm}} = 1870 \text{ kilograms}$$

[2]

16. No.23

The diagram shows Hassan's garden.



1 m^3 of soil has a mass of 1.2 tonnes.

Hassan buys 30 tonnes of soil.

He spreads the soil evenly over his garden.

Calculate the depth, in centimetres, of soil he spreads on his garden.

..... cm [3]

17. No.3

Gabriella has 3 bottles of water.
Each bottle contains 500 ml of water.

Work out the total quantity of water.
Give your answer in litres.

..... l [1]

18. No.8(a)

Carlos swims 90 lengths of a swimming pool.
The swimming pool is 25 m long.

(a) Work out the total distance Carlos swims.
Give your answer in kilometres.

..... km [2]

19. No.16

Here are four lengths.

0.075 km

7.6 m

77 cm

780 mm

Put them in order from smallest to largest.

.....
smallest

.....

.....

.....

largest

[2]

20. No.18

Decide if these statements are true or false.

Tick (✓) the correct boxes.

	True	False
2.3 kilograms $\neq$ 23 000 grams	☐	☐
150 millilitres $<$ 0.3 litres	☐	☐
5000 millimetres $>$ 5 metres	☐	☐

[1]

21. No.5

Some units of measurement are shown in the box.

millimetres	kilometres	millilitres
	centimetres	kilograms
metres	litres	grams

Choose the most appropriate unit from the box for each of these measurements.

The capacity of a spoon.

The mass of a piano.

The distance travelled in an aeroplane.

[2]

22. No.25

A farmer needs 10 grams of seed to plant one square metre of wheat.
The farmer wants to plant a field of 15 hectares.

Work out how many kilograms of seed he needs.

..... kg [2]

23. No.3

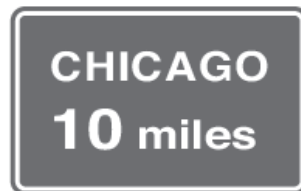
A bottle of juice holds 1.5 litres.
Ahmed pours all the juice into glasses.
He pours 250 millilitres into each glass.

Work out how many glasses Ahmed uses.

..... [2]

24. No.13

Here is a road sign in the USA.



Draw a ring around the distance, in kilometres, that is closest to 10 miles.

4 km 6 km 12 km 16 km 22 km

[1]

25. No.14

Chen has 1.6 kilograms of flour.

He uses one quarter of the flour to make a cake.

He uses a further 325 grams of the flour to make some biscuits.

Calculate how much flour Chen has left.

Give your answer in **grams**.

..... g [2]

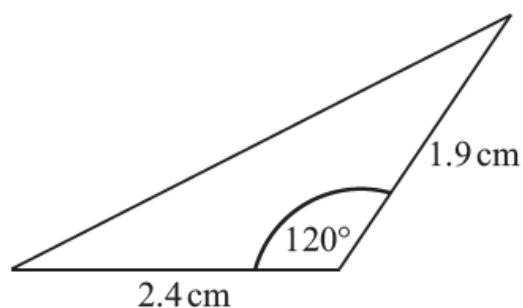
26. No.15

A train travels at 300 kilometres per hour.

Work out how far the train travels in 25 minutes.

..... km [1]

27. No.26

NOT TO
SCALE

The length of the longest side of this triangle is $\sqrt{1.9^2 + 2.4^2 + (1.9 \times 2.4)}$

(a) Calculate the length.

Write down your full calculator answer.

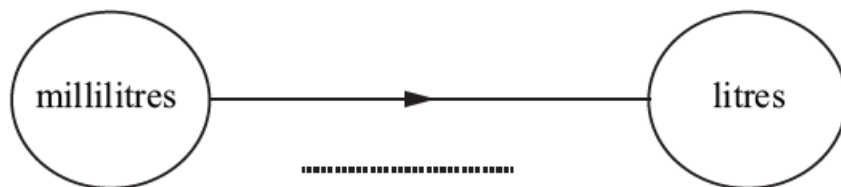
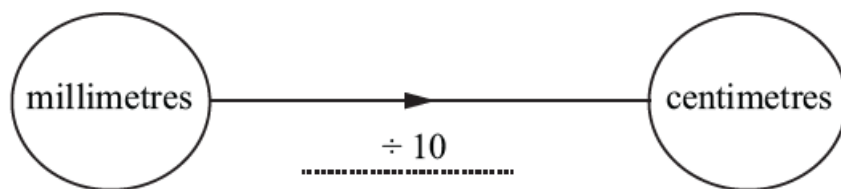
..... cm [1]

(b) Round your answer to part (a) to an appropriate degree of accuracy.

..... cm [1]

28. No.6

- (a) Complete the gaps to show the relationship between the units.
The first one has been done for you.



[1]

- (b) Convert 856 metres to kilometres.

..... km [1]

29. No.11

A right-angled triangle has sides of length 5 cm, 12 cm and 13 cm.

Draw a ring around the length of the hypotenuse for this triangle.

5 cm

12 cm

13 cm

30 cm

[1]

30. No.3

Here are the masses of three bags of flour.

1.2 kg

75 g

 $\frac{1}{2}$ kg

Work out the total mass in **kilograms**.

..... kg [1]

31. No.22

A bottle contains 3.6 litres of water.

Water drips out of the bottom of the bottle at a rate of 20 millilitres per minute.

Work out how long it takes for the bottle to empty.

Give your answer in **hours**.

..... hours [2]

32. No.4

These cards show the heights of six plants.

86 cm	132 cm	1 m 6 cm	1.6 m	1 m 20 cm	1.15 m
-------	--------	----------	-------	-----------	--------

Arrange the heights in order of size, starting with the **tallest**.
Two cards have been done for you.

	132 cm		1.15 m		
tallest					shortest

[1]

33. No.21

Aiko needs 20 litres of paint.
She mixes her paint using paint powder and water.
She uses these mixing instructions.

To make 200 ml of paint
mix 40 g of paint powder
with 120 ml of water

The paint powder comes in packets of 0.6 kg.

Work out how many packets of paint powder Aiko needs.

..... [3]

34. No.4

Rectangles A and B are identical.

Each has a perimeter of 40 cm.

They are put together to make a new rectangle.



NOT TO
SCALE

The perimeter of the new rectangle is 68 cm.

Work out the length and width of rectangle A .

length = ... cm

width = ... cm [2]

35. No.10

The cost of posting a parcel depends on its mass.

Mass of parcel	Cost
Up to 0.25 kg	\$1.20
0.25 kg up to 0.5 kg	\$2.15
0.5 kg up to 1 kg	\$3.25
1 kg up to 2 kg	\$4.70
2 kg and over	\$6.35

Mike posts 7 bars of chocolate in a parcel.

Each bar has a mass of 0.14 kg.

The total mass of the packaging is 95 g.

Work out how much it will cost Mike to post his parcel.

You **must** show how you worked out your answer.

\$ [2]