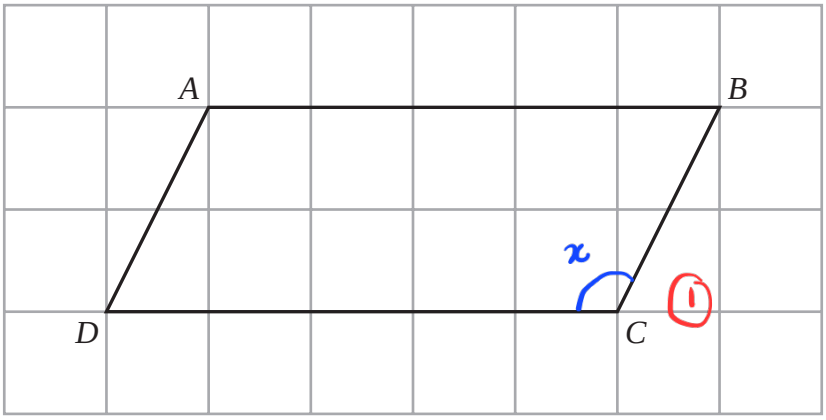
1 The diagram shows a quadrilateral *ABCD* drawn on a square grid.



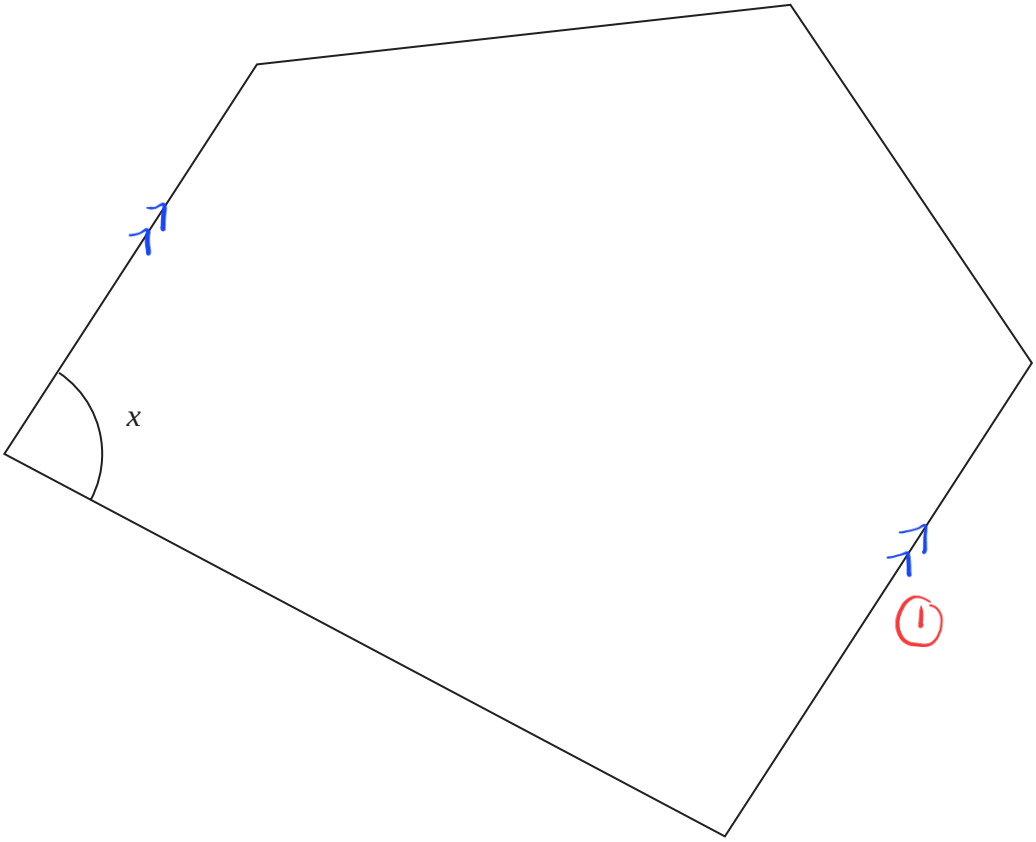
(a) Measure the length of *BC*.

3.1 ..... cm

(1)

(Total for Question 1 is 1 marks)

2 Here is a polygon with five sides.



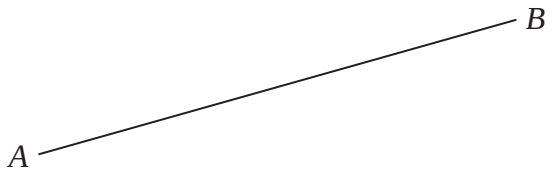
(b) Measure the size of the angle marked x.

85 (1) °

(1)

(Total for Question 2 is 1 marks)

3 (b)



Measure the length of *AB*.

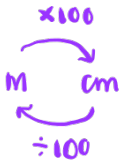
6.5 (1) cm

(1)

(Total for Question 3 is 1 marks)

4 (c) Change 7.6 metres into centimetres.

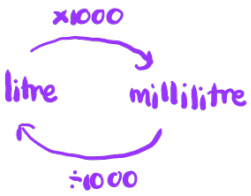
$7.6 \times 100 = 760$



760 (1) ..... centimetres

(1)

(Total for Question 4 is 1 marks)



5 Janine has 2 litres of orange squash.

She also has some empty cups.
When full, each cup holds 300 millilitres of orange squash.

Janine fills as many cups as possible.

How much orange squash does Janine have left after filling as many cups as possible?
State the units of your answer.

Jamie has : 2×1000

$= 2000$ ml (1)

$\frac{2000}{300} = 6.66\ldots$ (1)

Balance $= 0.66\ldots \times 300$

$= 200$ ml (1)

200 ml

(Total for Question 5 is 3 marks)

6 Iwan is going to buy the following items

1 plant pot at £8
3 bags of soil at £4.50 for each bag
some packets of seeds at £1.10 for each packet.

Iwan has a total of £30 to spend on these items.
He buys as many packets of seeds as he can.

Work out how much change Iwan should receive.

Finding amount of money Iwan has to buy seeds :

$30 - (8 + 3 \times 4.50)$

$= 30 - 21.50$ (1)

$= 8.50$

Finding no. of packet of seeds he can buy :

$\frac{8.50}{1.10} = 7.72...$

∴ Iwan can only buy 7 packet of seeds.

$7 \times 1.10 = 7.70$ (1)

change Iwan should receive :

$8.50 - 7.70$ (1)

$= 0.80$ (1)

£ 0.80

(Total for Question 6 is 4 marks)

7 The diagram shows one face of a wall.
This face is in the shape of a pentagon with exactly one line of symmetry.

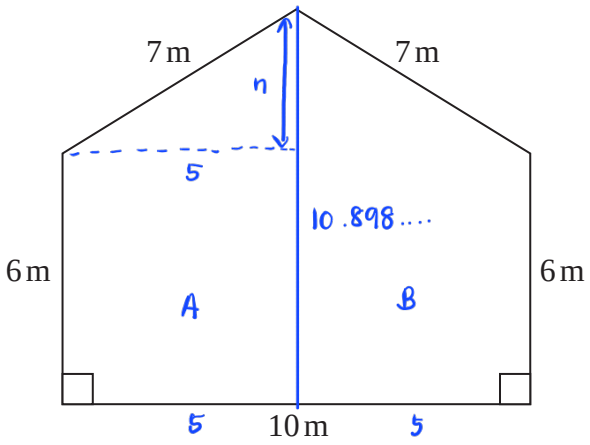


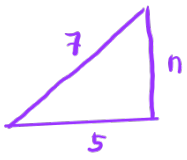
Diagram **NOT** accurately drawn

Omondi is going to paint this face of the wall once.
He has to buy all the paint that he needs to use.

The paint in each tin of paint Omondi is going to buy will cover $16\,m^2$ of the face of the wall.

Work out the least number of tins of paint Omondi will need to buy.
Show your working clearly.

By using Pythagoras' Theorem, finding n :



$n = \sqrt{7^2 - 5^2}$

$= \sqrt{24}$ (1)

$= 4.898.....$ (1)

Area of trapezium A and B :

2 trapeziums

$\frac{1}{2} \times (6 + 10.898...) \times (5) \times 2$

$= 84.494..\ m^2$ (1)

$\frac{84.494...}{16} = 5.28$ (1)

5 tins of paint is not enough to cover the whole wall

∴ Omondi needs 6 tins of paint. (1)

6

(Total for Question 7 is 5 marks)

8 Nav makes bracelets using cord.

Nav has a 6 metre length of cord.
Each bracelet needs 17.5 cm of cord.

Work out the greatest number of bracelets that Nav can make.

1 m = 100 cm

6 m = 600 cm (1)

600 ÷ 17.5 = 34.285 ... (1)

round to the nearest integer

= 34 (1)

34

(Total for Question 8 is 3 marks)

9 Paolo has a bag of flour.
The flour in the bag has a weight of 3 kilograms.

Paolo makes 8 pies using the flour in the bag.

3 of the pies each need 150 grams of the flour.
5 of the pies each need 180 grams of the flour.

Work out the weight of flour that remains in the bag when Paolo has made these pies.
Give your answer in grams.

$150 \times 3 = 450$ g

$180 \times 5 = 900$ g

450 g $+ 900$ g $= 1350$ g (1)

3 kg $\times 1000 = 3000$ g (1)

$3000 - 1350 = 1650$ g (1)

1650 ..... grams

(Total for Question 9 is 3 marks)

10 Sophia spends a total of £6.30 on cheese.

She buys 500 g of Cheddar cheese and 200 g of Stilton cheese.

The cost of the Cheddar cheese is £9.20 for 1 kg.

Work out the cost of 1 kg of the Stilton cheese.

Cost of 500 g of cheddar cheese:

$9.20 \times \frac{0.5}{1} = 4.60$ (1)

Cost of 200 g of Stilton cheese:

$6.30 - 4.60 = 1.70$ (1)

Cost of 1 kg of stilton cheese:

$1.70 \times \frac{1\text{ kg}}{0.2\text{ kg}} = 8.50$ (1) (1)

£ 8.50

(Total for Question 10 is 4 marks)

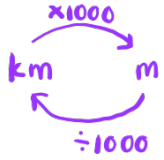
11 Brigid recorded the distance she ran on each of three days.

The table shows her results.

Day	Distance
Monday	5950 m
Tuesday	14.5 km
Wednesday	9000 m

Brigid set herself the target of running a **total** of at least 30 km on these three days.

Show that Brigid did not achieve her target.



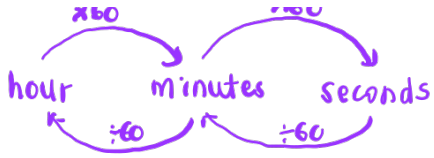
convert to km

Total : $\left(\frac{5950}{1000}\right)$ km + 14.5 km + $\left(\frac{9000}{1000}\right)$ km (1)

= 5.95 + 14.5 + 9 (1)

= 29.45 km (shown) (1)

(Total for Question 11 is 3 marks)



12 It takes a machine 8 seconds to produce a bolt.

Each day, the machine starts producing bolts at 09 30
The machine produces bolts continuously every 8 seconds until it stops at 16 10 on the same day.

Work out how many bolts the machine produces each day.

Finding how long the machine works:

15 70
~~16~~ ~~10~~
− 09 30
6 40 = 6 hours 40 minutes (1)

Convert 6 hours 40 minutes to seconds:

(6 × 3600)s + (40 × 60)s

= 21 600 + 2400

= 24000 seconds (1)

Bolts produced each day:

$\frac{24\,000}{8}$ (1) = 3000 (1)

3000

(Total for Question 12 is 4 marks)