

17 $B = \{b, l, u, e\}$

$$G = \{g, r, e, y\}$$

$$W = \{w, h, i, t, e\}$$

(a) List all the members of the set

(i) $B \cup G$

(ii) $W \cap G'$

(2)

Serena writes down the statement $B \cap G \cap W = \emptyset$

(b) Is Serena's statement correct?

You must give a reason for your answer.

(1)

(Total for Question 17 is 3 marks)



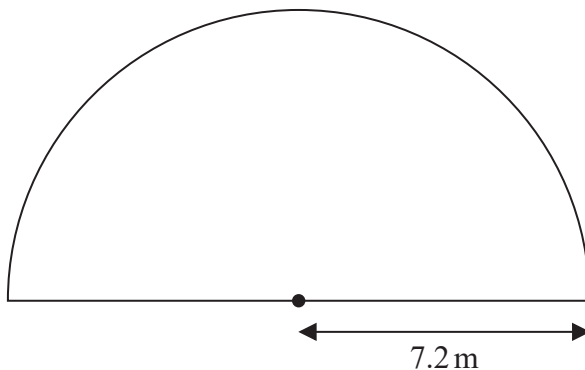
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18 The diagram shows Yuen's garden.

Diagram **NOT**
accurately drawn



The garden is in the shape of a semicircle of radius 7.2 m.
Yuen is going to cover his garden with grass seed.

Yuen has 12 boxes of grass seed.
Each box of grass seed contains enough seed to cover 6 m^2 of the garden.

Has Yuen enough grass seed for his garden?
Show your working clearly.

(Total for Question 18 is 3 marks)



19 The weight of a cat is 4.3 kg correct to 2 significant figures.

(a) Write down the upper bound of the weight of the cat.

..... kg
(1)

(b) Write down the lower bound of the weight of the cat.

..... kg
(1)

(Total for Question 19 is 2 marks)

20 Solve $x^2 - 5x - 36 = 0$
Show clear algebraic working.

.....

(Total for Question 20 is 3 marks)



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21 In a sale, the normal price of a hat is reduced by 15%
The sale price of the hat is 20.40 euros.

Work out the normal price of the hat.

..... euros

(Total for Question 21 is 3 marks)



22 5 children are playing on a trampoline.
The mean weight of the 5 children is 28 kg.

2 of the children get off the trampoline.
The mean weight of these 2 children is 26.5 kg.

Work out the mean weight of the 3 children who remain on the trampoline.

..... kg

(Total for Question 22 is 3 marks)

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23 Pablo made a solid gold statue.

He melted down some gold blocks and used the gold to make the statue.
Each block of gold was a cuboid, as shown below.

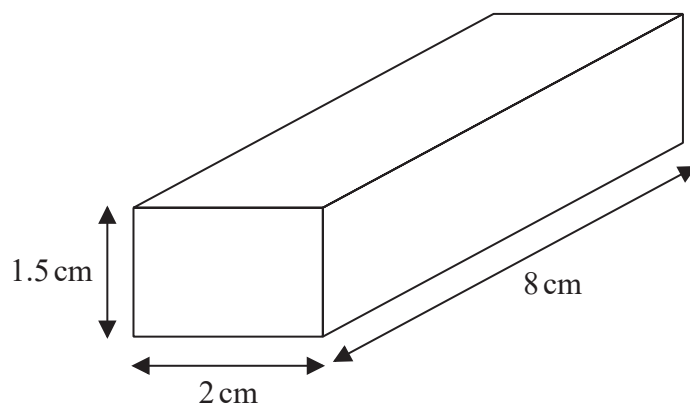


Diagram **NOT**
accurately drawn

The mass of the statue is 5.73 kg.
The density of gold is 19.32 g/cm^3

Work out the least number of gold blocks Pablo melted down in order to make the statue.
Show your working clearly.

.....
(Total for Question 23 is 5 marks)



24 The diagram shows a regular hexagon, $ABCDEF$, and an isosceles triangle, GHJ .

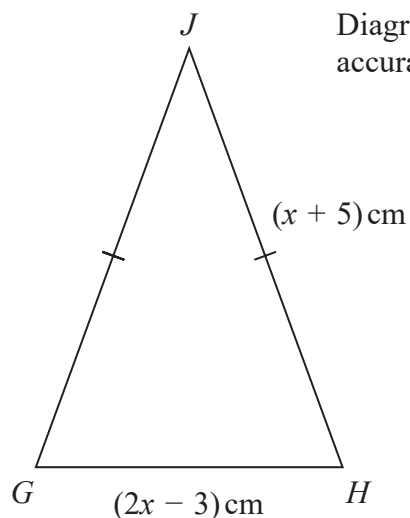
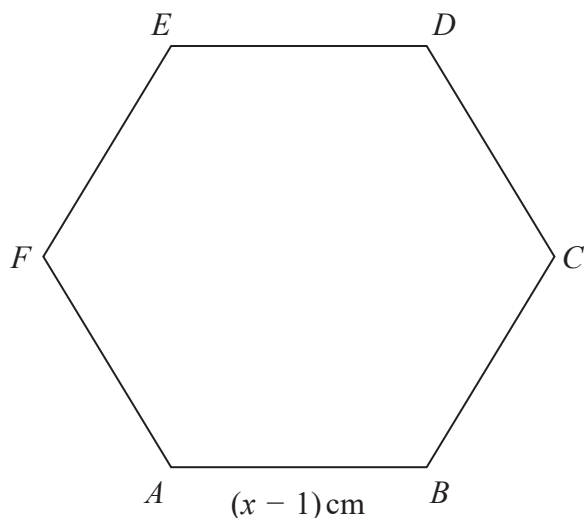


Diagram **NOT** accurately drawn

The perimeter of the hexagon is equal to the perimeter of the triangle.

Find the length of each side of the hexagon.

Show clear algebraic working.

..... cm

(Total for Question 24 is 5 marks)

TOTAL FOR PAPER IS 100 MARKS

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