

19 Sarah makes and sells mugs.

One day she makes 150 mugs.

Her total cost for making these mugs is £1140

Of these mugs

$\frac{2}{5}$ are small mugs

32% are medium mugs

and the rest are large mugs

Here is Sarah's price list for selling each mug.

MUGS	
Small	£8.50
Medium	£11.20
Large	£14.20

Sarah sells all 150 mugs.

Work out her percentage profit.

Give your answer correct to the nearest whole number.

.....%

(Total for Question 19 is 5 marks)



20 Jenny has six cards.

Each card has a whole number written on it so that

- the smallest number is 5
- the largest number is 24
- the median of the six numbers is 14
- the mode of the six numbers is 8

Jenny arranges her cards so that the numbers are in order of size.

5	24
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- (a) For the remaining four cards, write on each dotted line a number that could be on the card.

(3)

A basketball team plays 6 games.

After playing 5 games, the team has a mean score of 21 points per game.

After playing 6 games, the team has a mean score of 23 points per game.

- (b) Work out the number of points the team scored in its 6th game.

.....
(3)

(Total for Question 20 is 6 marks)



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21 (a) Solve the inequality $5x - 7 \leq 2$

.....
(2)

(b) (i) Factorise $y^2 - 2y - 35$

.....
(2)

(ii) Hence, solve $y^2 - 2y - 35 = 0$

.....
(1)

(Total for Question 21 is 5 marks)



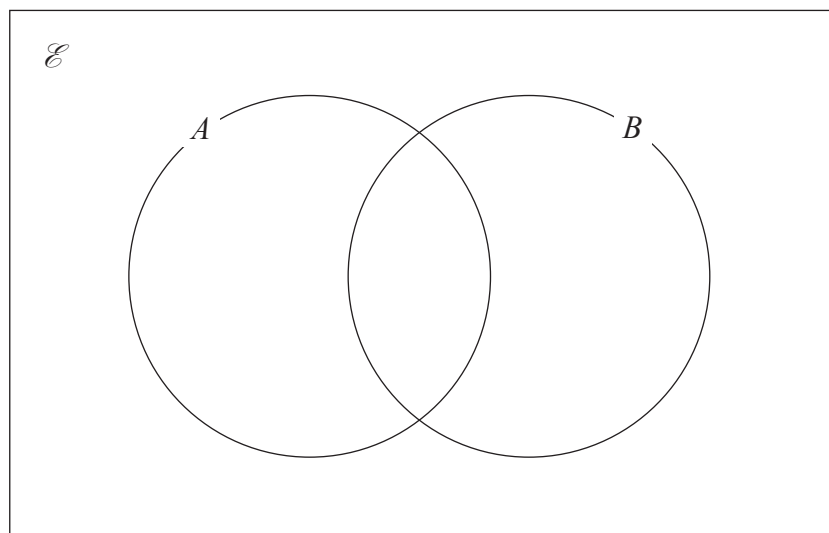
22 $\mathcal{E} = \{4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15\}$

$$A \cap B = \{5, 10, 15\}$$

$$B' = \{7, 8, 9, 11, 12, 13, 14\}$$

$$A' = \{4, 6, 7, 8, 14\}$$

Complete the Venn diagram for this information.



(Total for Question 22 is 3 marks)

23

$$a = 4.2 \times 10^{-24}$$

$$b = 3 \times 10^{145}$$

Work out the value of $a \times b$
Give your answer in standard form.

(Total for Question 23 is 2 marks)



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24 The diagram shows isosceles triangle ABC

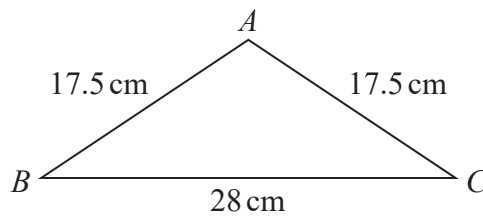


Diagram **NOT** accurately drawn

$$AB = AC = 17.5 \text{ cm}$$

$$BC = 28 \text{ cm}$$

Calculate the area of triangle ABC

..... cm^2

(Total for Question 24 is 4 marks)



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25 The straight line **L** has equation $2y + 7x = 10$

(a) Find the gradient of **L**

.....
(2)

(b) Find the coordinates of the point where **L** crosses the y -axis.

(.....,)
(1)

(Total for Question 25 is 3 marks)

TOTAL FOR PAPER IS 100 MARKS

