

Answer ALL TWENTY SIX questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 (a) Expand and simplify $(y + 4)(2 - y)$

.....
(2)

(b) Factorise fully $15b^5c - 35b^3c^9$

.....
(2)

(Total for Question 1 is 4 marks)

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2 Show that $6\frac{3}{4} \div 2\frac{4}{7} = 2\frac{5}{8}$

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(Total for Question 2 is 3 marks)



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3

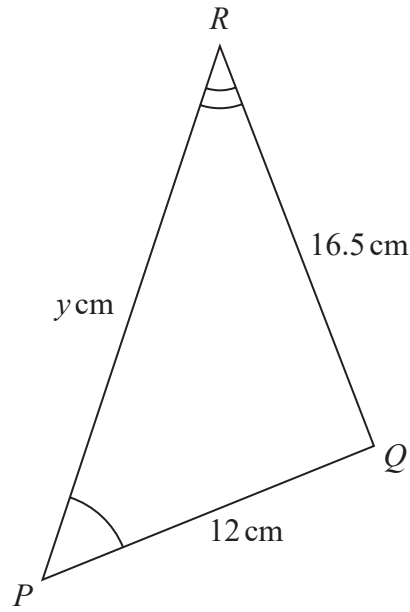
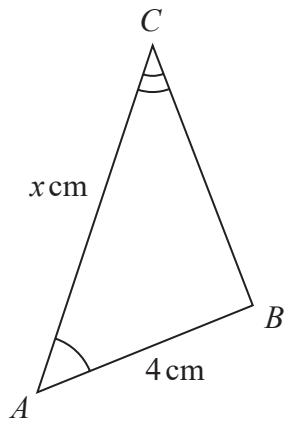


Diagram NOT accurately drawn

Triangle ABC is similar to triangle PQR

$AB = 4$ cm $PQ = 12$ cm $RQ = 16.5$ cm $AC = x$ cm $PR = y$ cm

(a) Calculate the length of BC

..... cm
(2)

(b) Write down an expression for y in terms of x

$y =$
(1)

(Total for Question 3 is 3 marks)



4 Each side of a regular octagon has a length of 18 mm, correct to the nearest 0.5 mm

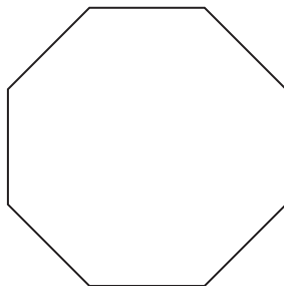


Diagram **NOT**
accurately drawn

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(a) Write down the lower bound of the length of each side of the octagon.

..... mm
(1)

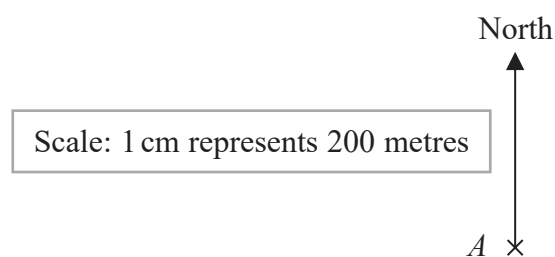
(b) Write down the upper bound of the length of each side of the octagon.

..... mm
(1)

(Total for Question 4 is 2 marks)



5 The scale diagram shows the position on a map of a house, A



House C is on a bearing of 110° from A
The distance from A to C is 700 m

- (a) Mark the position of C on the diagram with a cross (×)
Label your cross C

(3)

- (b) Write the scale of the map in the form $1:n$

1 :
(1)

(Total for Question 5 is 4 marks)



- 6 A bag contains only pink sweets, white sweets, green sweets and red sweets.

The table gives each of the probabilities that, when a sweet is taken at random from the bag, the sweet will be green or the sweet will be red.

Sweet	pink	white	green	red
Probability			0.2	0.35

The ratio

number of pink sweets : number of white sweets = 2 : 1

There are 28 red sweets in the bag.

Work out the number of white sweets in the bag.

.....
(Total for Question 6 is 5 marks)



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7 Find the lowest common multiple (LCM) of 28, 42 and 63
Show your working clearly.

.....
(Total for Question 7 is 3 marks)



- 8 The table gives information about the average house price in England in 2018 and in 2019

Year	2017	2018	2019
Average house price (£)		228 314	231 776

- (a) Work out the percentage increase in the average house price from 2018 to 2019
Give your answer correct to one decimal place.

..... %
(2)

The average house price in 2019 was 7.7% greater than the average house price in 2017

- (b) Work out the average house price in 2017
Give your answer correct to 3 significant figures.

£
(3)

(Total for Question 8 is 5 marks)



9 The frequency table gives information about the number of points scored by a player.

Number of points	Frequency
0	13
1	17
2	8
3	x
4	11

The mean number of points scored is 2

Work out the value of x

$x = \dots\dots\dots$

(Total for Question 9 is 4 marks)

