

15 A cylinder has diameter 14 cm and height 20 cm.

Work out the volume of the cylinder.

Give your answer correct to 3 significant figures.

.....cm³

(Total for Question 15 is 2 marks)

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16 Josh buys and sells books for a living.

He buys 120 books for £4 each.

He sells $\frac{1}{2}$ of the books for £5 each.

He sells 40% of the books for £7 each.

He sells the rest of the books for £8 each.

(a) Calculate Josh's percentage profit.

..... %
(5)

One book that Josh owns had a value of £15 on the 1st May 2019

The value of this book had increased by 20% in the last year.

(b) Find the value of the book on the 1st May 2018

£.....
(3)

(Total for Question 16 is 8 marks)



17 ABC and DEF are similar triangles.

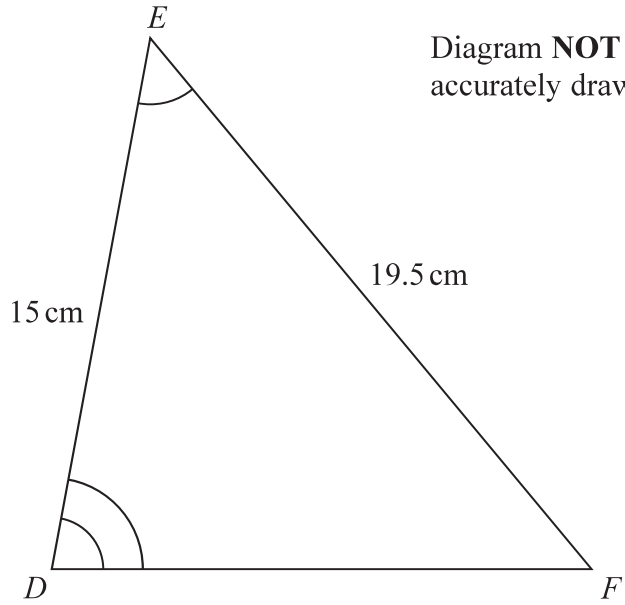
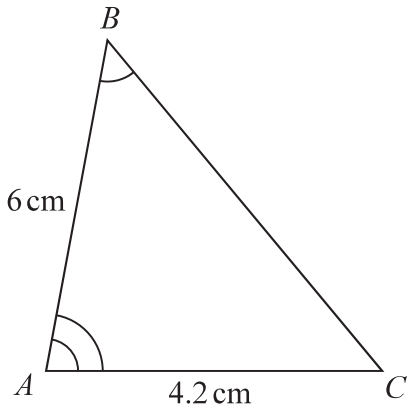


Diagram **NOT** accurately drawn

(a) Work out the length of DF .

..... cm
(2)

(b) Work out the length of BC .

..... cm
(2)

(Total for Question 17 is 4 marks)

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18 30 students in a class sat a Mathematics test.
The mean mark in the test for the 30 students was 26.8

13 of the 30 students in the class are boys.
The mean mark in the test for the boys was 25

Find the mean mark in the test for the girls.
Give your answer correct to 3 significant figures.

.....
(Total for Question 18 is 3 marks)

19 Change a speed of x kilometres per hour into a speed in metres per second.
Simplify your answer.

.....m/s
(Total for Question 19 is 3 marks)



20 Solve the simultaneous equations

$$\begin{aligned}x + 2y &= -0.5 \\ 3x - y &= 16\end{aligned}$$

Show clear algebraic working.

$x =$

$y =$

(Total for Question 20 is 3 marks)

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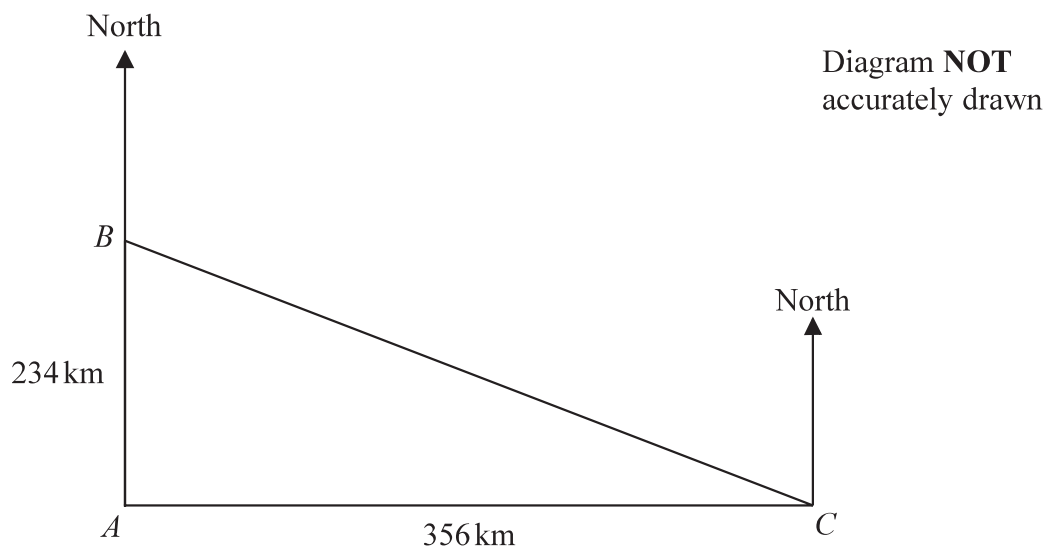


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21 The diagram shows the positions of three ships A , B and C .



B is 234 km due north of A .
 C is 356 km due east of A .

Work out the bearing of B from C .
Give your answer correct to the nearest degree.

(Total for Question 21 is 4 marks)



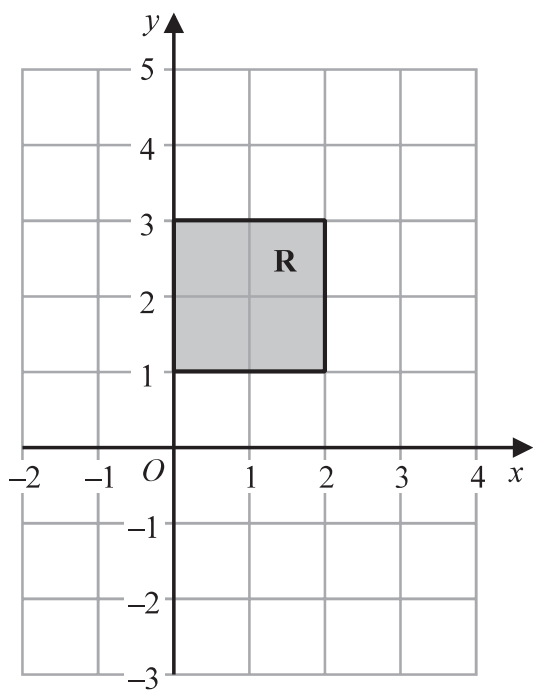
P 5 8 3 6 8 A 0 2 3 2 4

22 The straight line **L** has gradient 5 and passes through the point with coordinates $(0, -3)$

(a) Write down an equation for **L**.

(2)

(b)



The region **R**, shown shaded in the diagram, is bounded by four straight lines.

Write down the inequalities that define **R**.

(2)

(Total for Question 22 is 4 marks)

TOTAL FOR PAPER IS 100 MARKS

