

20 The language department of a college has 180 students.
Each student studies exactly one of French, German, Italian or Spanish.

15 students study French.

45% of the students study German.

Express the percentage of students studying Italian or Spanish as a percentage of those studying French or German.

.....%

(Total for Question 20 is 4 marks)

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21 (a) Expand $3c^3(c + 4)$

.....
(2)

(b) (i) Factorise $x^2 + 8x - 9$

.....
(2)

(ii) Hence, solve $x^2 + 8x - 9 = 0$

.....
(1)

(Total for Question 21 is 5 marks)



22 Show that $2\frac{2}{3} + 3\frac{3}{4} = 6\frac{5}{12}$

(Total for Question 22 is 3 marks)

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23 The diagram shows a solid cylinder made from iron.

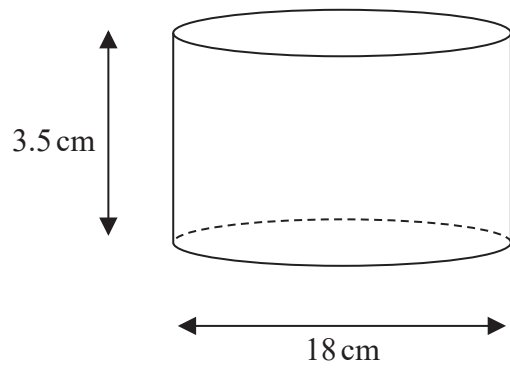


Diagram NOT accurately drawn

The cylinder has diameter 18 cm and height 3.5 cm
The mass of the cylinder is 7.04 kg

Work out the density of the iron.
Give your answer in g/cm^3 correct to 2 significant figures.

..... g/cm^3

(Total for Question 23 is 3 marks)



- 24 Jane bought a new car for \$18 000
The car depreciates in value by 15% each year.

Work out the value of the car at the end of 4 years.
Give your answer correct to the nearest \$

\$.....

(Total for Question 24 is 3 marks)

- 25 Solve the inequality $3 - 4x \leq 11$

.....
(Total for Question 25 is 2 marks)

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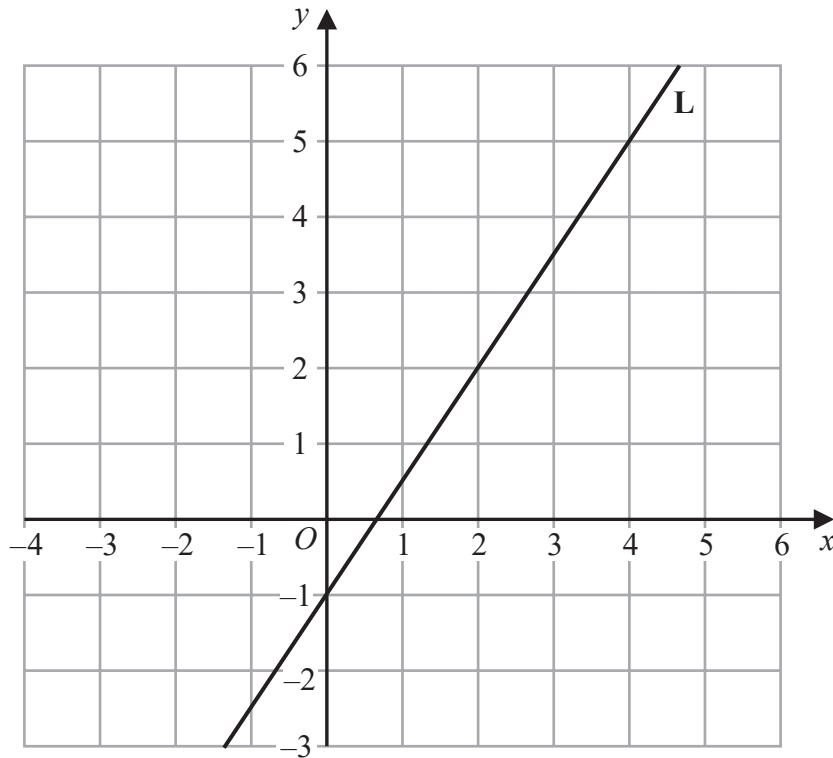


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26 Line L is drawn on the grid.



Find an equation for L
Give your answer in the form $y = mx + c$

.....
(Total for Question 26 is 3 marks)



27 The diagram shows a quadrilateral $ABCD$

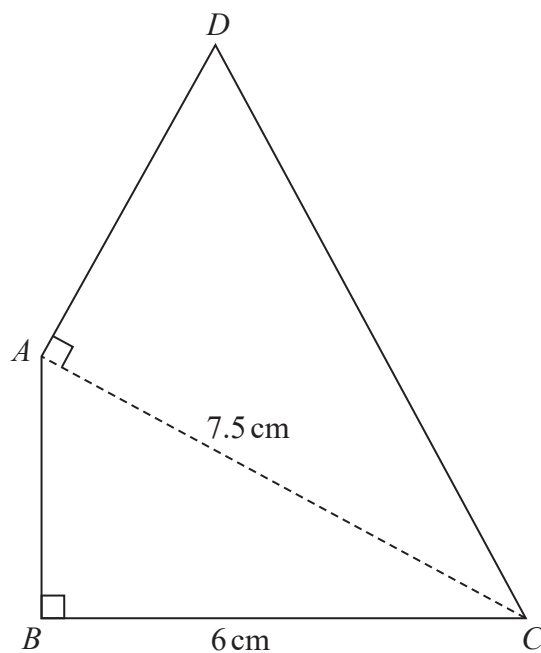


Diagram **NOT** accurately drawn

In the diagram, ABC and DAC are right-angled triangles.

$$BC = 6 \text{ cm} \quad AC = 7.5 \text{ cm}$$

The area of quadrilateral $ABCD$ is 31.5 cm^2

Work out the length of AD

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Question 27 continued.

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..... cm

(Total for Question 27 is 6 marks)

TOTAL FOR PAPER IS 100 MARKS



P 6 8 7 8 8 A 0 2 7 2 8