

Please check the examination details below before entering your candidate information

Candidate surname					Other names				
Centre Number					Candidate Number				

Pearson Edexcel International GCSE (9–1)

Thursday 15 May 2025

Morning (Time: 2 hours)

Paper reference **4WM1F/01R**

Mathematics A (Modular)

UNIT 1F

Foundation Tier



You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Without sufficient working, correct answers may be awarded no marks.
- Answer the questions in the spaces provided
– *there may be more space than you need.*
- **Calculators may be used.**
- You must **NOT** write anything on the formulae page.
- Anything you write on the formulae page will gain NO credit.

Information

- The total mark for this unit is 100.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ►

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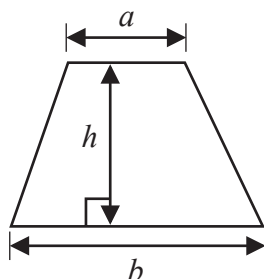
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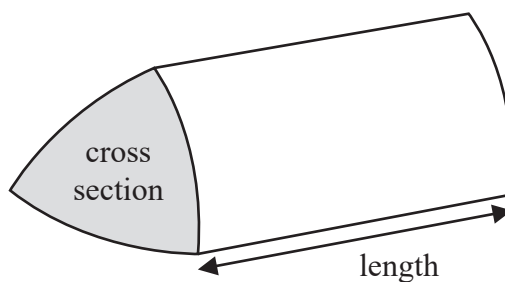

Pearson

International GCSE Mathematics
Formulae sheet – Foundation Tier

Area of trapezium $= \frac{1}{2}(a + b)h$

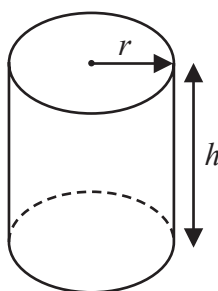


Volume of prism $= \text{area of cross section} \times \text{length}$



Volume of cylinder $= \pi r^2 h$

Curved surface area of cylinder $= 2\pi r h$



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Answer ALL TWENTY SIX questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1** The table shows the land area, in km^2 , of each of six US states.

State	Land area (km^2)
Arizona	294 207
Florida	138 887
Montana	376 962
New Mexico	314 161
Oregon	248 608
Washington	172 119

- (a) Which one of these six US states has the greatest land area?

.....
(1)

- (b) Write the number 314 161 correct to the nearest hundred.

.....
(1)

- (c) Write down the value of the 4 in the number 294 207

.....
(1)

- (d) Work out the sum of the land area of Oregon and the land area of Washington.

..... km^2
(1)

The land area of Vermont is 23 871 km^2

- (e) Write the number 23 871 in words.

.....
(1)

(Total for Question 1 is 5 marks)

- 2 Freya has four cards.
There is a number on each card.



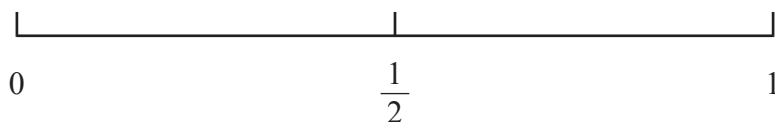
Freya is going to pick at random one of these cards.

- (a) Circle the word in the box below that best describes the likelihood that Freya will pick a card with the number 5 on it.

impossible unlikely evens likely certain

(1)

- (b) On the probability scale below, mark with a cross (×) the probability that Freya will pick a card with a number less than 6 on it.

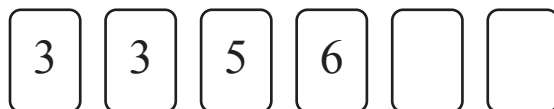


(1)

Ishani has six cards each with a number on it.
Four of these numbers are shown below.

When she picks at random one of the six cards, the probability that she picks a card with an even number on it is $\frac{1}{2}$

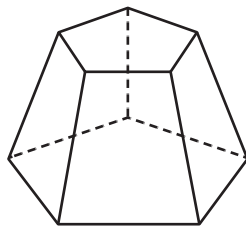
- (c) Write a number on each of the blank cards to show one possible set of six cards that Ishani could have.



(1)

(Total for Question 2 is 3 marks)

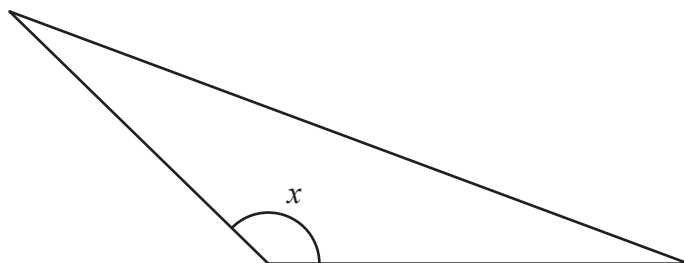
3 Here is a 3-D shape.



(a) Write down the number of faces of this shape.

.....
(1)

Here is a triangle.

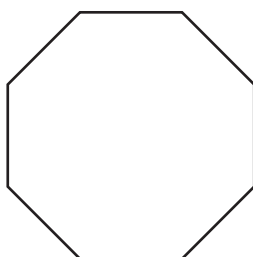


(b) Select with a tick (✓) the correct word to describe the angle marked x

acute	obtuse	reflex	right-angle

(1)

Here is a polygon.



(c) Select with a tick (✓) the correct word to describe this polygon.

hexagon	kite	octagon	pentagon	trapezium

(1)

(Total for Question 3 is 3 marks)

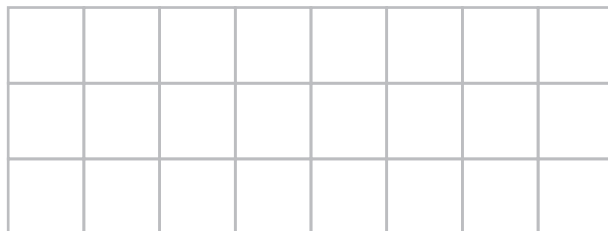
- 4 (a) Write $\frac{9}{10}$ as a decimal.

.....
(1)

- (b) Write $\frac{3}{50}$ as a percentage.

..... %
(1)

Here is a shape made of squares.



- (c) Shade $\frac{5}{8}$ of the shape.

(1)

- (d) One of these fractions is **not** equivalent to $\frac{2}{5}$

Which one?

$$\frac{20}{50} \quad \frac{4}{10} \quad \frac{2}{500} \quad \frac{10}{25} \quad \frac{60}{150}$$

.....
(1)

There are 32 students in a class.
8 of the students study French.

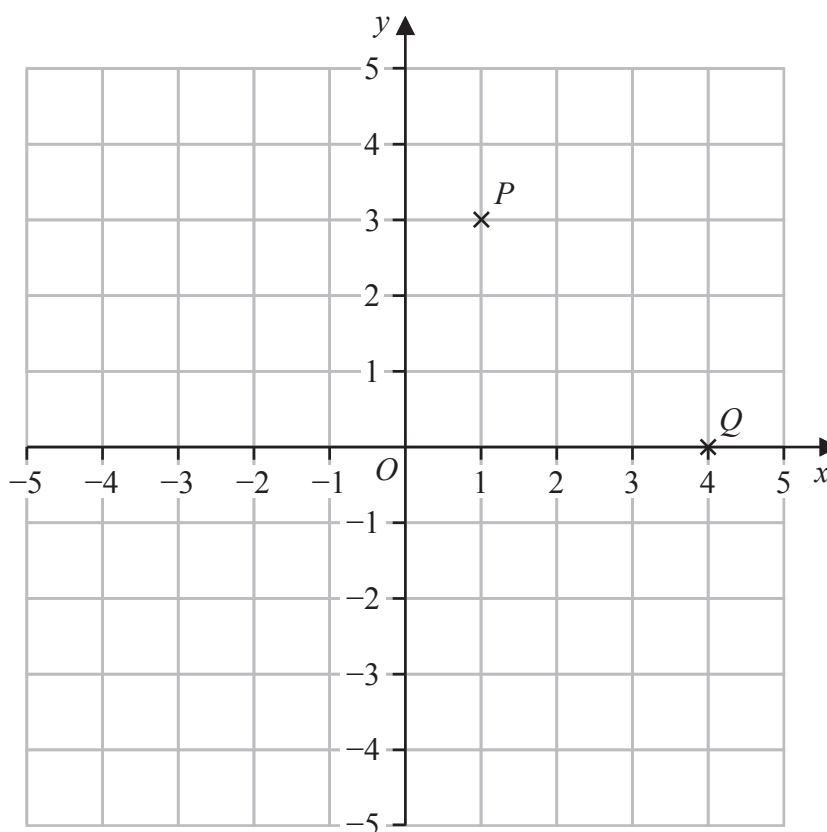
- (e) What fraction of the students do **not** study French?
Give your fraction in its simplest form.

.....
(2)

(Total for Question 4 is 6 marks)



- 5 The diagram shows points P and Q marked on a grid.



- (a) Write down the coordinates of point P

(.....,)
(1)

- (b) Write down the coordinates of point Q

(.....,)
(1)

The coordinates of the point R are $(-2, -4)$

- (c) On the grid, mark with a cross (X) the position of R
Label this point R

(1)

(Total for Question 5 is 3 marks)

6 (a) Simplify $e + e + e + e$

.....
(1)

(b) Simplify $4p - 8k + 3p + 2k$

.....
(2)

(c) Solve $3d = 24$

$d =$
(1)

(d) Solve $4x + 9 = 32$

$x =$
(2)

$$y = 6h - 2r$$

(e) Work out the value of y when $h = 9$ and $r = 15$

$y =$
(2)

(Total for Question 6 is 8 marks)



7 Tania buys

3 bars of chocolate for \$1.60 each

2 bottles of water for \$2.15 each

1 packet of peanuts

She spends a total of \$10.35

Work out the cost of the packet of peanuts.

\$.....

(Total for Question 7 is 3 marks)



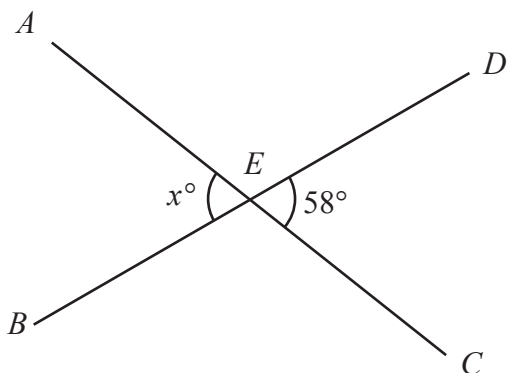


Diagram **NOT**
accurately drawn

AEC and *BED* are straight lines.

Sergio says that the value of x is 58

(a) Give a reason why Sergio is correct.

(1)

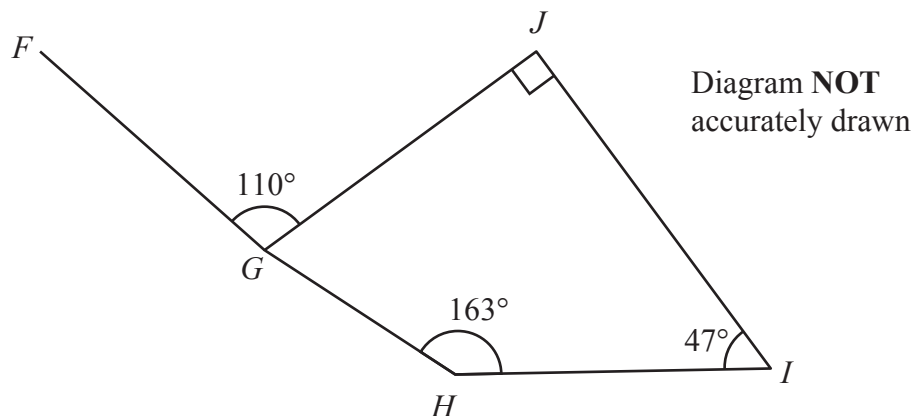
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In the diagram, $GHIJ$ is a quadrilateral.



Chloe says “ FGH is a straight line”

- (b) Show that Chloe is wrong.
Give a reason for each stage of your working.

(4)

(Total for Question 8 is 5 marks)

- 9 The two-way table shows some information about 120 students who study a language in Year 12 and in Year 13

	French	Spanish	Italian	Total
Year 12	26		31	70
Year 13		12		
Total	48			120

- (a) Complete the two-way table.

(3)

One of the 120 students is chosen at random.

- (b) Write down the probability that this student is in Year 12 and studies French.

(1)

The probability that Rayna will pass her driving test is 0.63

- (c) Work out the probability that Rayna will not pass her driving test.

(1)

(Total for Question 9 is 5 marks)

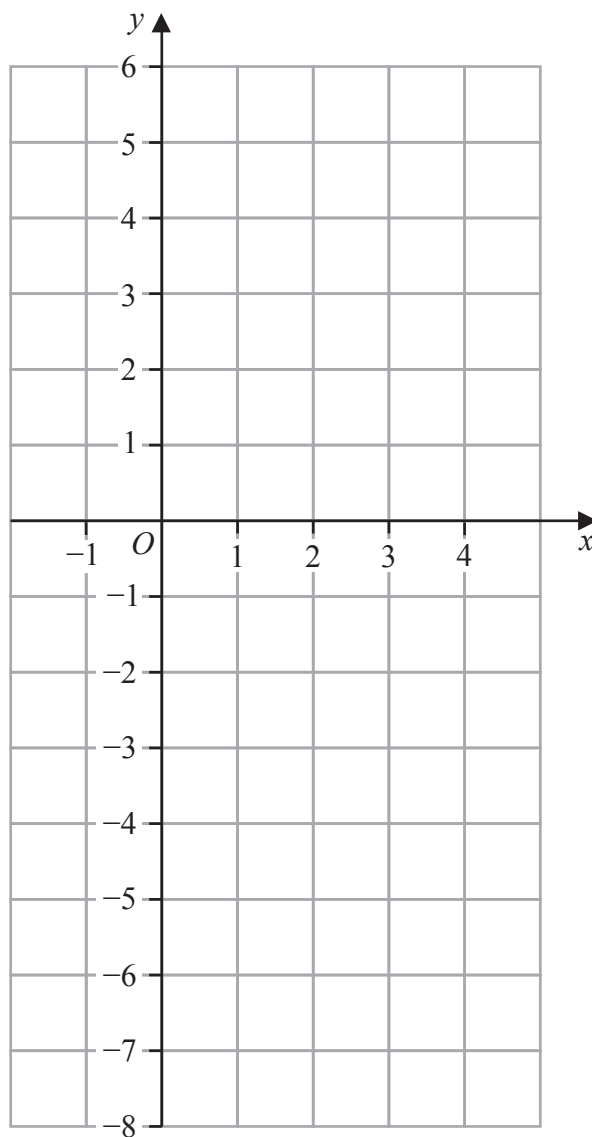


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10 On the grid, draw the graph of $y = 2x - 5$ for values of x from -1 to 4



(Total for Question 10 is 3 marks)



- 11 By writing each number correct to one significant figure, work out an estimate for the value of

$$\frac{79 \times 57.9}{1.98}$$

Show your working clearly.

(Total for Question 11 is 2 marks)

- 12 Work out the value of $2^4 + 6^2 \times 4^3$

(Total for Question 12 is 2 marks)



- 13 The diagram shows the plan of a wooden floor in the shape of a circle with radius 6 m

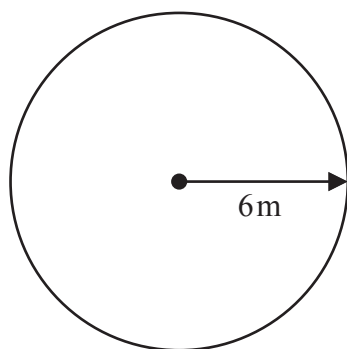


Diagram **NOT**
accurately drawn

Julia paints the floor.

Each tin of paint she uses covers an area of 8 m^2

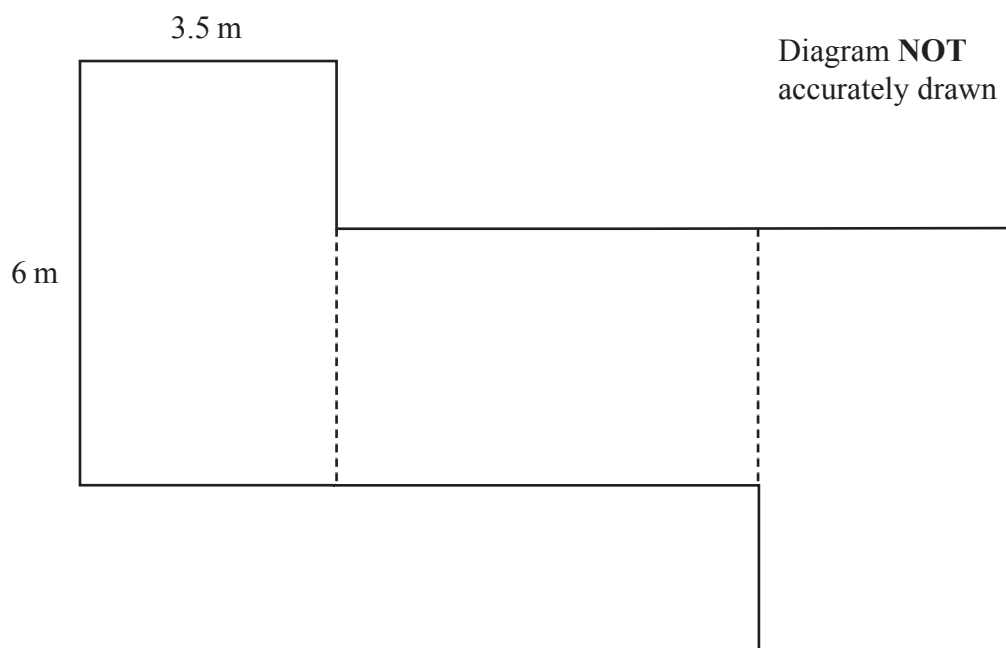
Julia buys all the paint she needs to cover the floor.

Work out the smallest number of tins of paint that she needs to buy.

Show your working clearly.

(Total for Question 13 is 3 marks)

- 14 The diagram shows a plan of a garden made from three identical rectangles.



The length of each rectangle is 6 metres.
The width of each rectangle is 3.5 metres.

Jeremy puts a fence around the perimeter of the garden.
He charges 7.60 euros for each 1 metre of fence.

Work out how much Jeremy charges in total for the fence.

..... euros

(Total for Question 14 is 4 marks)

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15 Jill scored 119 out of 140 marks in an exam.

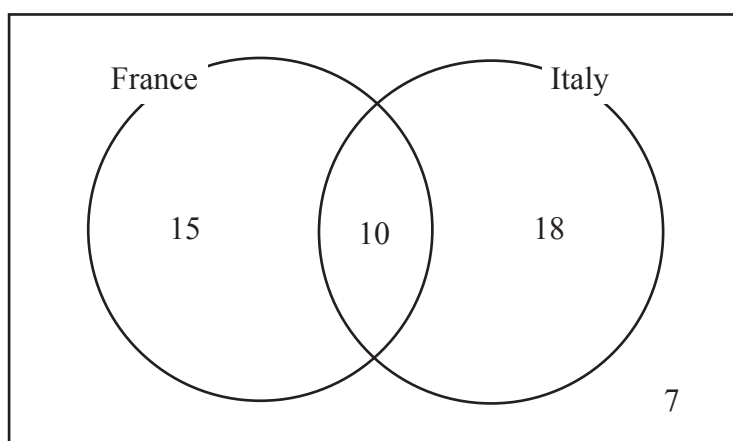
Work out Jill's score as a percentage.

.....%

(Total for Question 15 is 2 marks)



- 16 50 adults were asked if they had visited France or Italy.
The Venn diagram shows information about their answers.



15, 10, 18 and 7 are the number of adults in each region of the Venn diagram.

One of the adults is chosen at random.

- (i) Find the probability that this adult has visited both France and Italy.

(1)

- (ii) Find the probability that this adult has not visited Italy.

(2)

(Total for Question 16 is 3 marks)



17 The length of a ship is 142.8 m, correct to 1 decimal place.

(i) Write down the lower bound of the length of the ship.

..... m
(1)

(ii) Write down the upper bound of the length of the ship.

..... m
(1)

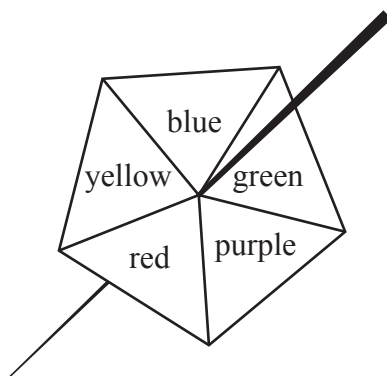
(Total for Question 17 is 2 marks)

18 Show that $2\frac{1}{4} \times 1\frac{5}{7} = 3\frac{6}{7}$

(Total for Question 18 is 3 marks)

19 Here is a biased 5-sided spinner.

When the spinner is spun, it can land on blue or on green or on purple or on red or on yellow.



The table gives information about the probability of the spinner landing on each colour.

Colour	blue	green	purple	red	yellow
Probability	0.12	0.20	0.38	$4x$	x

Sophie spins the spinner once.

(a) Work out the probability that the spinner lands on blue or on green or on purple.

.....
(1)

Max spins the spinner 350 times.

(b) Work out an estimate for the number of times the spinner lands on red.

.....
(4)

(Total for Question 19 is 5 marks)



20 $\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\}$

$$A = \{2, 4, 6, 8, 10, 12\}$$

$$B = \{3, 6, 9, 12\}$$

$$C = \{1, 3, 5, 7, 9, 11\}$$

(a) List the members of the set

(i) $A \cup B$

(ii) B'

(2)

$$\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\}$$

$$A = \{2, 4, 6, 8, 10, 12\}$$

$$B = \{3, 6, 9, 12\}$$

$$C = \{1, 3, 5, 7, 9, 11\}$$

$\mathcal{E}$	$\cap$	$\cup$	$\emptyset$	$\in$	$\notin$
---------------	--------	--------	-------------	-------	----------

(b) Write a symbol from the box on each dotted line to make each of the following a true statement.

(i) $A \cap C = \dots\dots\dots$

(ii) $13 \dots\dots\dots \mathcal{E}$

(2)

(Total for Question 20 is 4 marks)

21 $3^8 \times 3^4 = 3^m$

(a) Find the value of m

$$m = \dots\dots\dots (1)$$

$$4^{12} \div 4^7 = 4^n$$

(b) Find the value of n

$$n = \dots\dots\dots (1)$$

$$(6^2)^{10} = 6^p$$

(c) Find the value of p

$$p = \dots\dots\dots (1)$$

$$5^r = 1$$

(d) Write down the value of r

$$r = \dots\dots\dots (1)$$

(Total for Question 21 is 4 marks)



22 The diagram shows triangle ABC

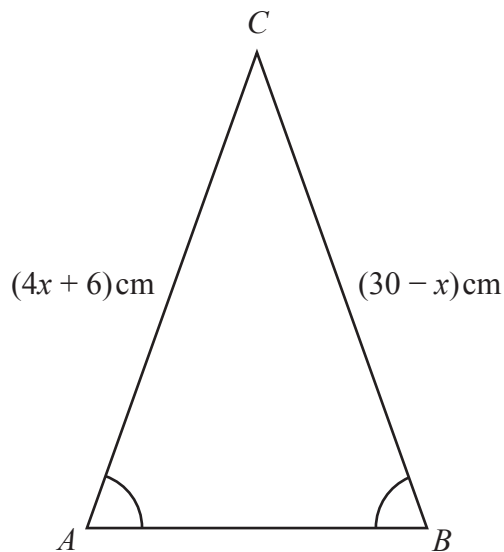


Diagram **NOT**
accurately drawn

$$CA = (4x + 6) \text{ cm} \quad CB = (30 - x) \text{ cm} \quad \text{angle } CAB = \text{angle } CBA$$

Work out the value of x

$$x = \dots\dots\dots$$

(Total for Question 22 is 3 marks)

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- 23 Change a speed of 40 metres per second to a speed in kilometres per hour.
Show your working clearly.

..... kilometres per hour

(Total for Question 23 is 3 marks)



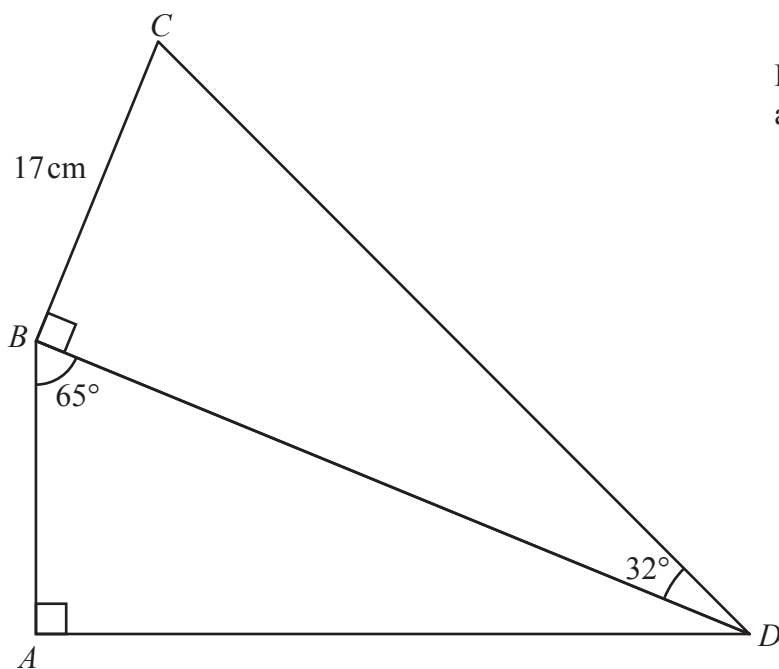


Diagram **NOT**
accurately drawn

ABD and BCD are right-angled triangles.

$$\text{angle } ABD = 65^\circ \quad \text{angle } CDB = 32^\circ \quad BC = 17 \text{ cm}$$

Work out the length of AD

Give your answer correct to 3 significant figures.

..... cm

(Total for Question 24 is 4 marks)

25 (a) Simplify $(5k^3n^4)^2$

.....
(2)

(b) Factorise fully $12m^2y^4 + 18m^3y$

.....
(2)

(c) (i) Factorise $x^2 - 13x + 42$

.....
(2)

(ii) Hence, solve $x^2 - 13x + 42 = 0$

.....
(1)

(Total for Question 25 is 7 marks)



26 The diagram shows a rectangular sheet of metal.

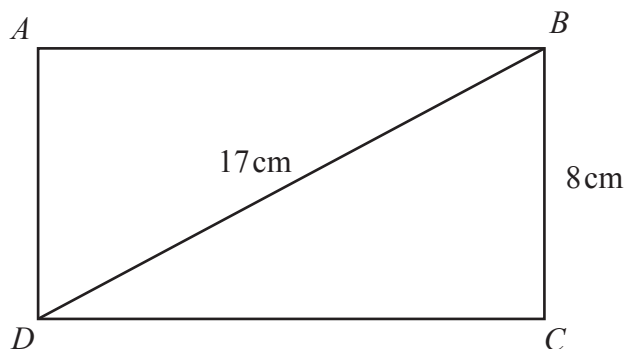


Diagram **NOT**
accurately drawn

$$BC = 8 \text{ cm} \quad DB = 17 \text{ cm}$$

The sheet of metal lies flat on a table.

The force exerted by the sheet of metal on the table is 150 newtons.

Work out the pressure on the table due to the sheet of metal.

Show your working clearly.

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

..... newtons/cm²

(Total for Question 26 is 5 marks)

TOTAL FOR UNIT IS 100 MARKS



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