

- 1 A mathematics lesson starts at 11 05.
The lesson lasts for 75 minutes.

Work out the time that the lesson ends.

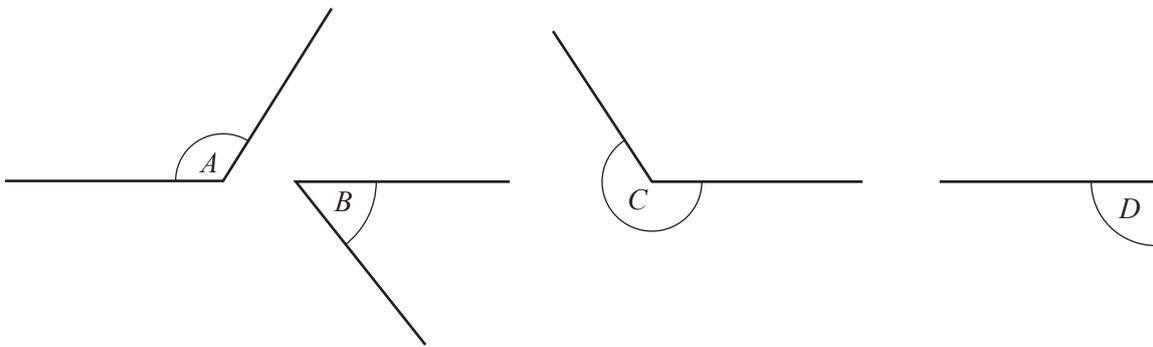
..... [1]

- 2 The probability that it will be sunny tomorrow is 0.97 .

Work out the probability that it will not be sunny tomorrow.

..... [1]

- 3



Complete the statement.

Angle is a reflex angle.

[1]

- 4 The temperature at 07 00 is -3°C .
This temperature is 11°C higher than the temperature at 01 00.

Find the temperature at 01 00.

..... $^{\circ}\text{C}$ [1]

- 5 Jodi swims 22 lengths of a swimming pool to raise money for charity.
She receives \$15 for each length she swims.

Calculate how much money Jodi raises for charity.

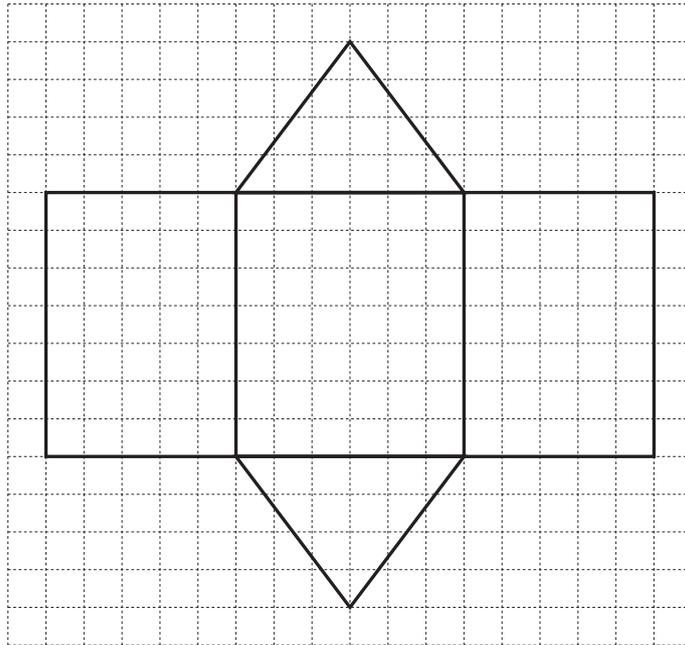
\$..... [1]

- 6 A student measures the angles in a triangle as 55° , 85° and 50° .

Explain why the student is incorrect.

..... [1]

- 7 The diagram shows a net of a solid.



Write down the mathematical name of the solid.

..... [1]

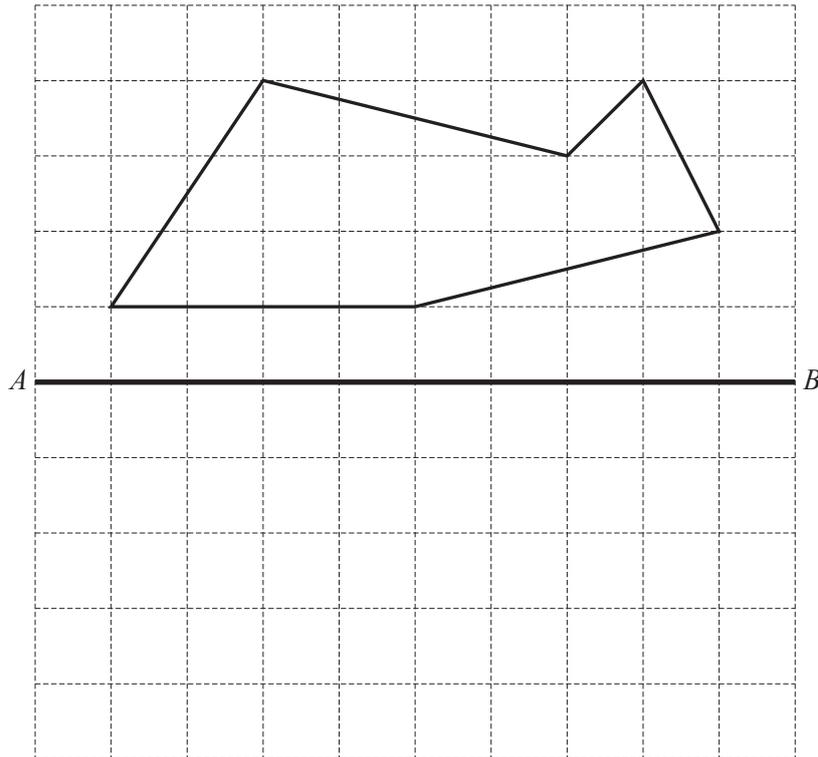
- 8 (a) Write 0.046875 correct to 2 significant figures.

..... [1]

- (b) Write 2760000 in standard form.

..... [1]

- 9 Reflect this shape in the line AB .



[2]

- 10 Write down the six factors of 12.

.....,,,,, [2]

11 $\mathbf{e} = \begin{pmatrix} -5 \\ 4 \end{pmatrix}$ $\mathbf{f} = \begin{pmatrix} 0 \\ 6 \end{pmatrix}$

Write as a single vector

(a) $3\mathbf{e}$,

$$\begin{pmatrix} \\ \end{pmatrix} [1]$$

(b) $\mathbf{f} - \mathbf{e}$.

$$\begin{pmatrix} \\ \end{pmatrix} [1]$$

12 Simplify.

(a) $(y^5)^3$

..... [1]

(b) $w^7 \div w^{-2}$

..... [1]

13 Without using a calculator, estimate, by rounding each number correct to 1 significant figure,

$$\frac{\sqrt{104.3}}{8.72 - 7.389}$$

You must show all your working.

..... [2]

14 A tourist changes \$500 to euros (€) when the exchange rate is €1 = \$1.0697 .

Calculate how many euros he receives.

€..... [2]

15 (a) Change 645 mm into cm.

..... cm [1]

(b) Change 4.1 m^3 into cm^3 .

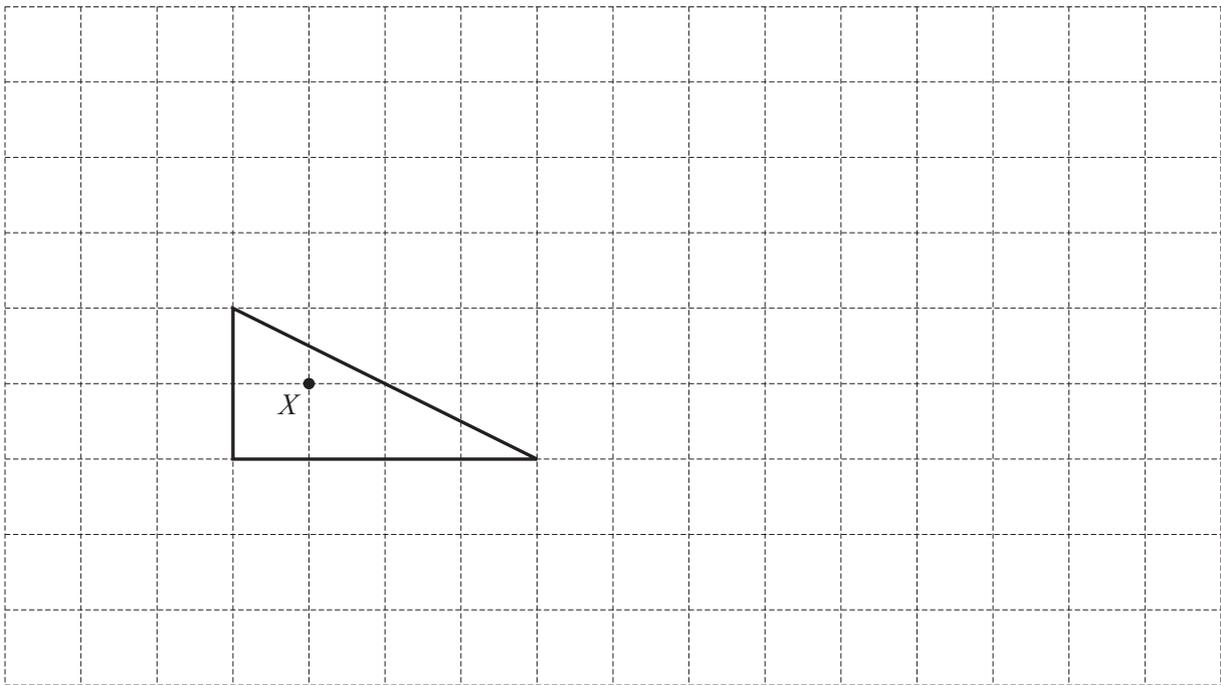
..... cm^3 [1]

- 16 The width, w metres, of a room is 4.2 metres, correct to the nearest 10 centimetres.

Complete this statement about the value of w .

$$\dots\dots\dots \leq w < \dots\dots\dots [2]$$

17



Draw the enlargement of the triangle by scale factor 3, centre X .

[2]

- 18 The probability that a sweet made in a factory is the wrong shape is 0.0028 .
One day, the factory makes 25 000 sweets.

Calculate the number of sweets that are expected to be the wrong shape.

$$\dots\dots\dots [2]$$

19 Factorise completely.

$$8g^2 - 4g$$

..... [2]

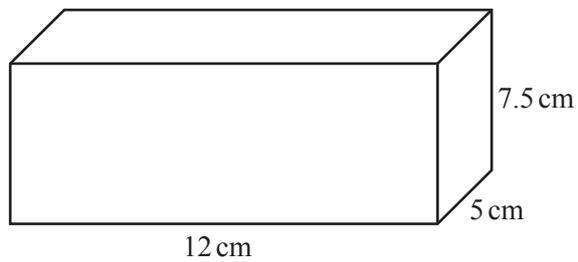
20 Solve the simultaneous equations.
You must show all your working.

$$\begin{aligned} 6x - 3y &= 12 \\ 2x + 3y &= 16 \end{aligned}$$

$x =$

$y =$ [2]

21



NOT TO
SCALE

Calculate the total surface area of the cuboid.

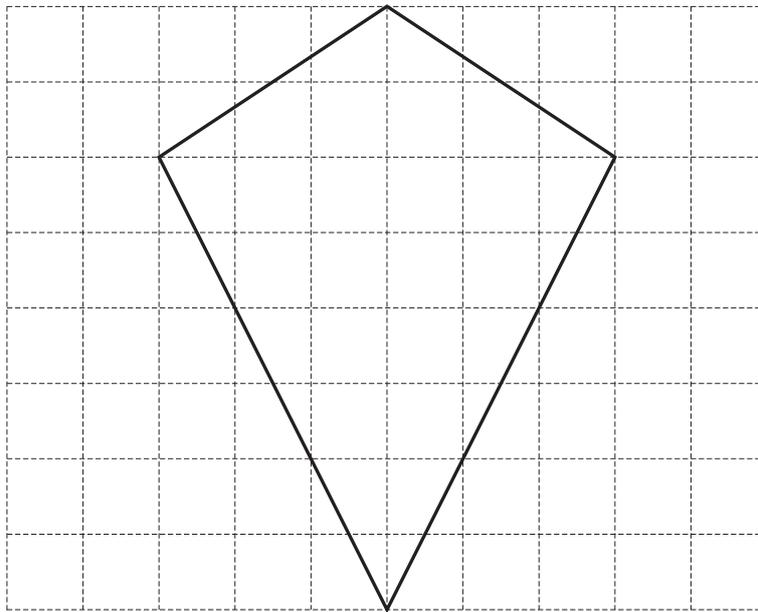
.....cm² [3]

- 22 The number of passengers on a train increases from 63 to 77.

Calculate the percentage increase.

.....% [3]

23



The diagram shows a quadrilateral on a 1 cm^2 grid.

- (a) Write down the mathematical name of this quadrilateral.

..... [1]

- (b) Work out the area of this quadrilateral.
Give the units of your answer.

..... [3]

- 24 Five numbers have a mean of 9.4 .
Four of the numbers are 3, 5, 10 and 12.

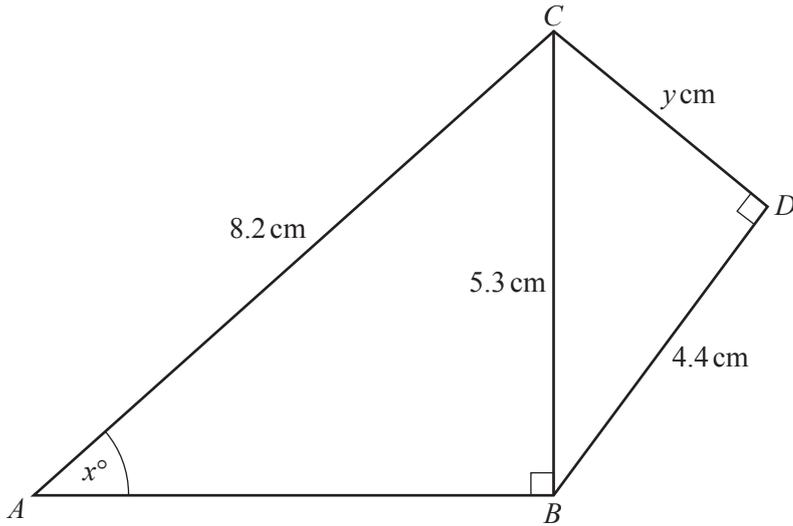
Work out the range of the five numbers.

..... [4]

- 25 **Without using a calculator**, work out $3\frac{1}{8} \div \frac{5}{12}$.

You must show all your working and give your answer as a mixed number in its simplest form.

..... [4]



NOT TO SCALE

Triangles ABC and BCD are both right-angled triangles.

(a) Calculate the value of y .

$y = \dots\dots\dots$ [3]

(b) Calculate the value of x .

$x = \dots\dots\dots$ [2]

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