



- 1 On Monday the temperature was  $-3^{\circ}\text{C}$ .  
On Tuesday the temperature fell by  $5^{\circ}\text{C}$ .

Write down the temperature on Tuesday.

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

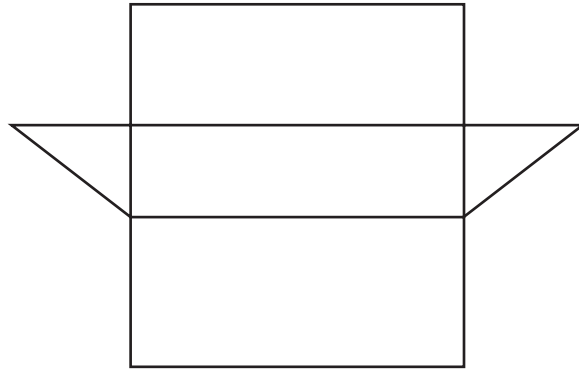
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- 2 Write 0.00387 in standard form.

Answer ..... [1]

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3



The diagram is an accurate net for a solid shape.

Write down the geometrical name for this solid shape.

Answer ..... [1]

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- 4 On a map, a straight section of a canal is 3.5 cm long.  
The scale of the map is 1 cm to 5 km.

Calculate the actual length of this straight section.

Answer ..... km [1]

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5 Sophie invests \$450 at a rate of 1.5% per year **simple** interest.

Calculate the interest she earns after 8 years.

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Answer \$ ..... [2]

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6

A •

• B

**Using a straight edge and compasses only**, construct the locus of points which are equidistant from point *A* and from point *B*.

**Show clearly all your construction arcs.** [2]

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- 7 A box is 12 cm high, correct to the nearest centimetre.

Complete the statement about the height,  $h$  cm, of the box.

Answer .....  $\leq h <$  ..... [2]

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- 8 The metal used to make a coin is a mixture of steel and copper.

The ratio mass of steel : mass of copper is 108 : 7.

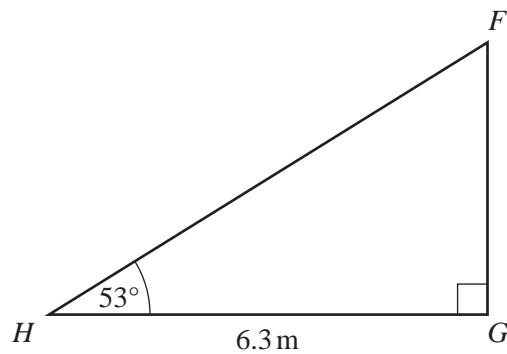
The coin has a total mass of 230 milligrams.

Calculate the mass of copper in this coin.

Answer ..... milligrams [2]

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9



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Calculate the length  $FG$ .

Answer ..... m [2]

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10 Use your calculator to find the value of  $\sqrt{25.63}$ .

Write down your answer

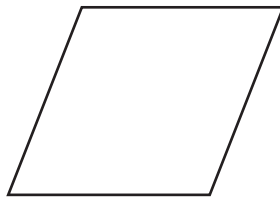
(a) as it appears on your calculator,

Answer(a) ..... [1]

(b) correct to 4 significant figures.

Answer(b) ..... [1]

11 (a)

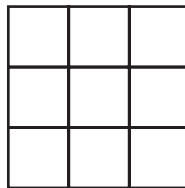


The diagram shows a rhombus.

Draw all the lines of symmetry.

[2]

(b)



Shade **two** squares in the diagram above so that the figure has **one** line of symmetry and **no** rotational symmetry. [1]

12 Solve the simultaneous equations.

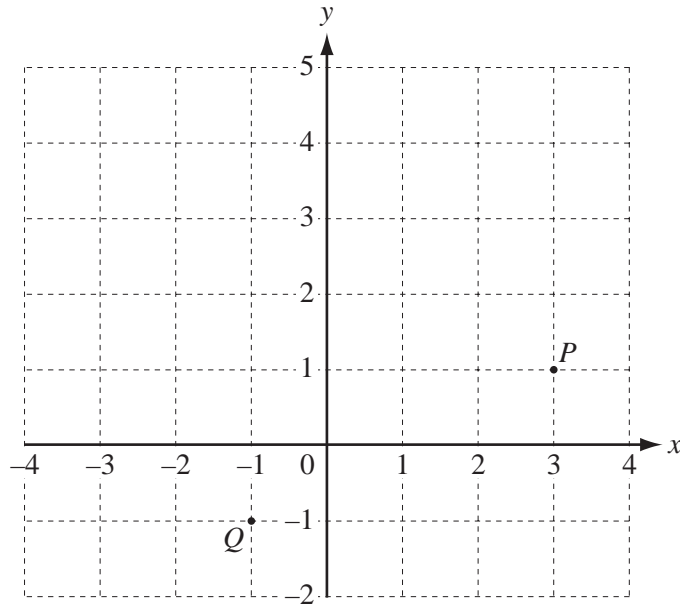
$$3x + y = 18$$

$$4x - 2y = 34$$

Answer  $x =$  .....

$y =$  ..... [3]

13

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The points  $P(3, 1)$  and  $Q(-1, -1)$  are marked on the grid.

(a) Write down the vector  $\vec{QP}$ .

$$\text{Answer(a)} \quad \vec{QP} = \begin{pmatrix} \quad \\ \quad \end{pmatrix} \quad [1]$$

(b)  $R$  and  $S$  are two more points.

$$\vec{PR} = \begin{pmatrix} -2 \\ 1 \end{pmatrix} \quad \text{and} \quad \vec{PS} = 3 \vec{PR}.$$

(i) Write down the vector  $\vec{PS}$ .

$$\text{Answer(b)(i)} \quad \vec{PS} = \begin{pmatrix} \quad \\ \quad \end{pmatrix} \quad [1]$$

(ii) Mark the point  $S$  on the grid. [1]

14 Simplify the following.

(a)  $8^0$

Answer(a) ..... [1]

(b)  $(x^5)^2$

Answer(b) ..... [1]

(c)  $p^{-3} \div p^4$

Answer(c) ..... [1]

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15 A tourist changes \$900 to euros (€) when the exchange rate is €1 = \$1.356.

Calculate the amount he receives.

Give your answer correct to 2 decimal places.

Answer € ..... [3]

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- 16 (a) Write down all the common factors of 30 and 42.

Answer(a) ..... [2]

- (b) Write down the smallest number which is a multiple of both 12 and 18.

Answer(b) ..... [2]

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- 17 Simon has ten cards, numbered 1 to 10.  
He chooses a card at random.

Write down the probability that the number on the card is

- (a) 8,

Answer(a) ..... [1]

- (b) 12,

Answer(b) ..... [1]

- (c) an odd number,

Answer(c) ..... [1]

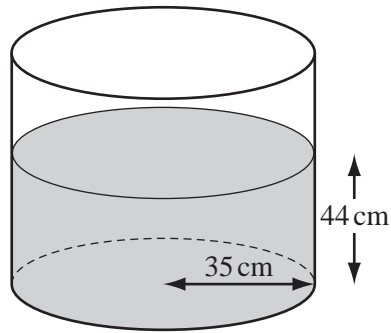
- (d) not a multiple of 3.

Answer(d) ..... [1]

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A cylindrical tank, with radius 35 cm, is filled with water to a depth of 44 cm.

(a) Calculate the area of the base of the tank.

Answer(a) .....  $\text{cm}^2$  [2]

(b) Calculate the volume of water in the tank.

Answer(b) .....  $\text{cm}^3$  [1]

(c) Change your answer to **part (b)** into litres.

Answer(c) ..... litres [1]

19 In this question, **you must show all the steps in your working.**

Without using a calculator, find the value of

(a)  $1\frac{1}{3} \div 2\frac{4}{5}$ ,

*Answer(a)* ..... [3]

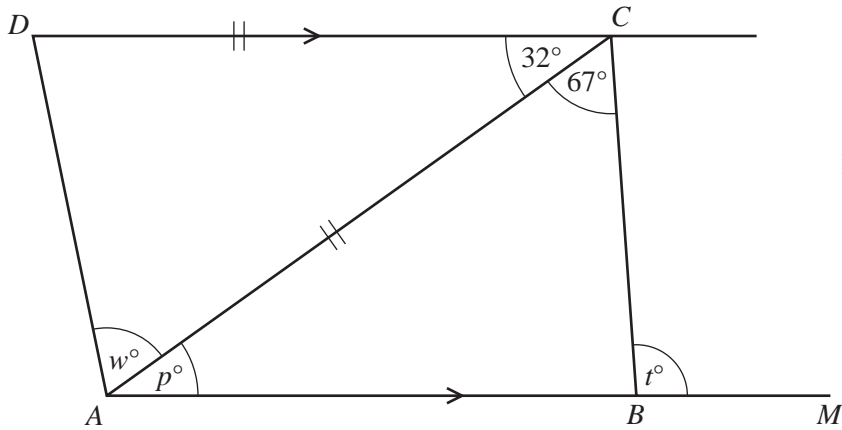
(b)  $\frac{13}{15} + \frac{3}{5}$ .

Give your answer as a mixed number.

*Answer(b)* ..... [3]

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The diagram shows a quadrilateral  $ABCD$  with  $DC$  parallel to  $AB$ .

- (a) Write down the geometrical name for a quadrilateral with **only one** pair of parallel sides.

Answer(a) ..... [1]

- (b)  $ABM$  is a straight line and  $DC = AC$ .  
Angle  $DCA = 32^\circ$  and angle  $ACB = 67^\circ$ .

Find the values of  $p$ ,  $t$  and  $w$ , giving a reason for each answer.

Answer (b)  $p =$  ..... because ..... [2]

$t =$  ..... because ..... [2]

$w =$  ..... because ..... [2]

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