



- 1 Write 0.13 as a fraction.

Answer .....

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- 2 (a) Write in figures the number three hundred and four thousand six hundred and twenty.

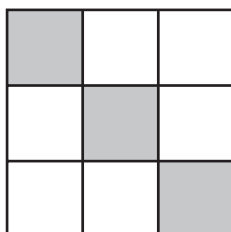
Answer(a) ..... [1]

- (b) Write your answer to **part (a)** correct to 3 significant figures.

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

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3



- (a) Write down the order of rotational symmetry of the diagram.

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

- (b) Draw the lines of symmetry on the diagram.
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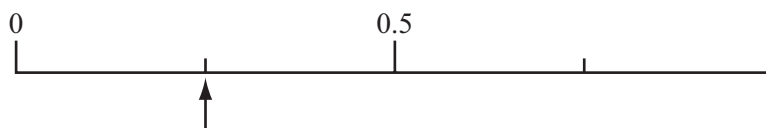
- 4 Calculate  $\frac{9.25 + 26.4}{3.71}$ .

Give your answer correct to 2 decimal places.

Answer ..... [2]

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- 5 A bag contains 20 counters.  
One counter is taken from the bag at random.  
The arrow on the probability scale shows the probability that this counter is blue.



- (a) Work out the number of blue counters in the bag.

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

- (b) Find the probability that the counter is **not** blue.

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

- 6 The temperature in a freezer is  $-20.5^{\circ}\text{C}$ .

- (a) The temperature in a fridge is  $2.8^{\circ}\text{C}$ .

Find the difference between the temperature in the fridge and the temperature in the freezer.

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

- (b) The temperature in the freezer rises by  $5^{\circ}\text{C}$ .

Find the temperature in the freezer now.

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

- 7 Find the value of

- (a)  $\sqrt[3]{2744}$ ,

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

- (b)  $6^4$ .

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

$$8 \quad \mathbf{m} = \begin{pmatrix} 5 \\ -2 \end{pmatrix} \quad \mathbf{n} = \begin{pmatrix} -3 \\ 6 \end{pmatrix}$$

Work out

(a)  $\mathbf{m} + \mathbf{n}$ ,

$$\text{Answer(a)} \quad \begin{pmatrix} \phantom{0} \\ \phantom{0} \end{pmatrix} \quad [1]$$

(b)  $3\mathbf{n}$ .

$$\text{Answer(b)} \quad \begin{pmatrix} \phantom{0} \\ \phantom{0} \end{pmatrix} \quad [1]$$

9 Without using a calculator, work out  $\frac{4}{5} - \frac{2}{3}$ .

Give your answer as a fraction and show each step of your working.

$$\text{Answer} \dots\dots\dots [2]$$

10 Make  $x$  the subject of the formula  $y = 6x - 1$ .

$$\text{Answer } x = \dots\dots\dots [2]$$



- 15 (a) A parcel is in the shape of a cuboid of length 18 cm, width 10 cm and height 8 cm.

Calculate the volume of the parcel.

Answer(a) ..... cm<sup>3</sup> [2]

- (b) The mass of the parcel is 1.7 kilograms.

Change 1.7 kilograms to grams.

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

- 16 (a) Simplify.

$$5j + 2k + j - 3k$$

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

- (b) Factorise.

$$5p + 10$$

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

- 17 (a) Paolo thinks of a number.

It has two digits.

It is a common factor of 36 and 48.

Write down Paolo's number.

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

- (b) Maria thinks of a number.

It has two digits.

It is a common multiple of 15 and 20.

Write down Maria's number.

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

- (c) Kemar thinks of a number.

It is between 1 and 2.

It is an irrational number.

Write down a number he could be thinking of.

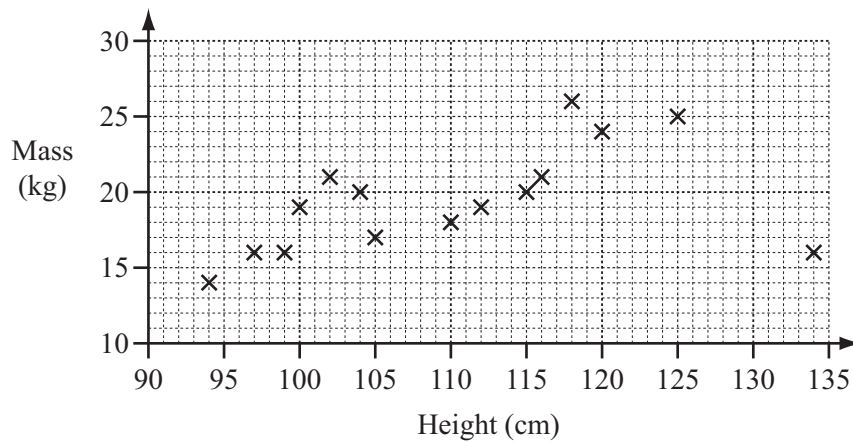
Answer(c) ..... [1]

18 Solve the equation.

$$\frac{2x + 5}{3} = 8$$

Answer  $x =$  ..... [3]

19 The scatter diagram shows the heights and masses of some five-year-old boys.



(a) The height of one of the boys is likely to have been recorded incorrectly.

Write down the mass of this boy.

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

(b) What type of correlation does the scatter diagram show?

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

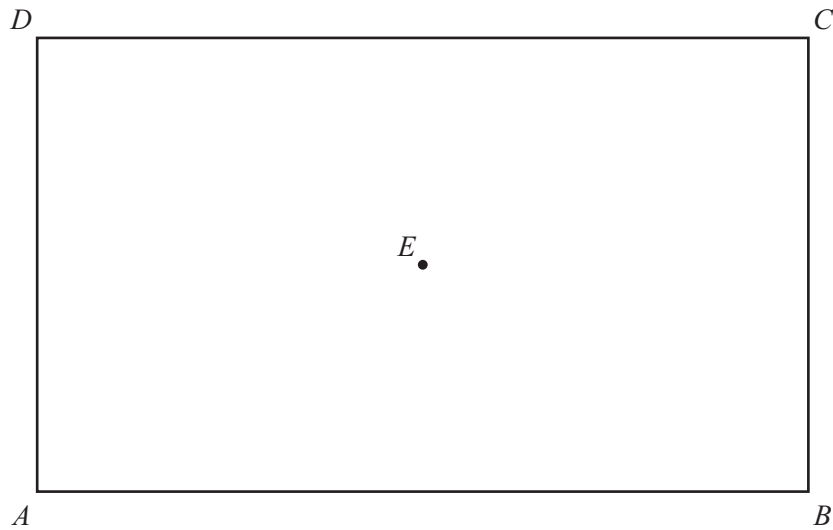
(c) (i) Draw a line of best fit on the scatter diagram. [1]

(ii) Another boy had a height of 108 cm.  
His mass was not recorded.

Use your line of best fit to estimate the boy's mass.

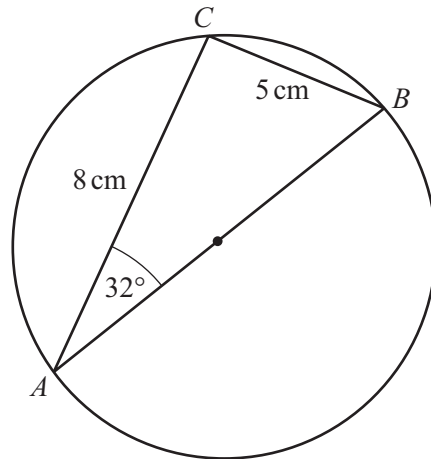
Answer(c)(ii) ..... kg [1]

20



- (a) Draw the locus of the points which are 3 cm from  $E$ . [1]
- (b) Using a straight edge and compasses only, construct the bisector of angle  $DCB$ . [2]
- (c) Shade the region which is
- less than 3 cm from  $E$
- and
- nearer to  $CB$  than to  $CD$ . [1]
-





NOT TO  
SCALE

$A$ ,  $B$  and  $C$  lie on a circle with diameter  $AB$ .  
Angle  $CAB = 32^\circ$ ,  $AC = 8$  cm and  $BC = 5$  cm.

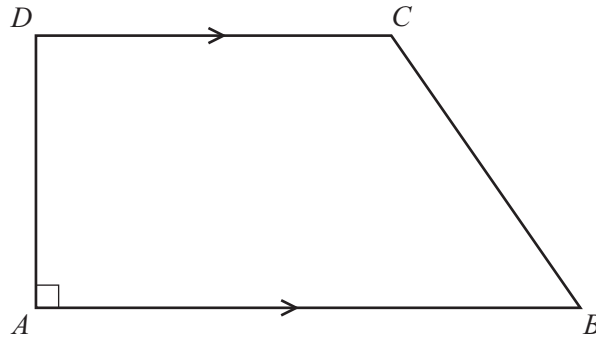
(a) Work out the size of angle  $CBA$ .

Answer(a) Angle  $CBA = \dots\dots\dots$  [2]

(b) Work out the length of  $AB$ .

Answer(b)  $AB = \dots\dots\dots$  cm [2]

22 This is an accurate drawing of quadrilateral  $ABCD$ .



(a) Write down the mathematical name for quadrilateral  $ABCD$ .

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

(b) Measure the size of the acute angle.

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

(c) By taking suitable measurements from the diagram, work out the area of  $ABCD$ .

Answer(c) .....  $\text{cm}^2$  [3]



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