

- 1 (a) Work out.
 0.02×5.6

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

- (b) Express $\frac{58}{7}$ as a decimal, correct to 3 decimal places.

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

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- 2 Senzo slept at 10.30 p.m. and woke up at 5.20 a.m the following morning.

Calculate the time, in hours and minutes that Senzo slept.

Answerhrs..... min [2]

- 3 (a)** In an Easter conference attended by 2 000 people, the ratio of males to females was 2 :3 respectively.

Calculate the number of males who attended this conference.

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

- (b)** The price of a book is increased from E250 to E270.

Calculate the percentage increase of the book.

Answer (b)% [2]

- 4 (a)** Write $2\frac{2}{3}\%$ as a fraction, in its simplest form.

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

- (b)** Write down the highest common factor of 72 and 108.

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

- 5 Given that $x = -2$ and $y = 4$.
Calculate the value of $-x^2y$.

Answer..... [2]

- 6 The favourite colours of 24 grade 1 pupils of a particular school were recorded.
A pie chart showing this information is to be drawn.

Complete the table below. **(Do not draw the pie chart)**

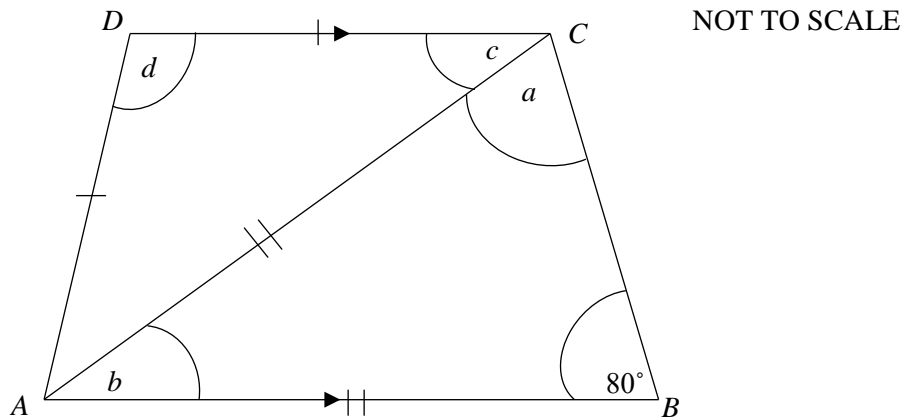
Colour	Number of pupils	Sector angle
Red		150°
Blue	5	
Yellow		

[4]

7 $ABCD$ is a trapezium.

AB is parallel to CD , $AB = AC$ and $AD = DC$.

$$\hat{ABC} = 80^\circ.$$



Calculate the angles marked a , b , c and d .

Answer $a = \dots\dots\dots^\circ$ [1]

$b = \dots\dots\dots^\circ$ [1]

$c = \dots\dots\dots^\circ$ [1]

$d = \dots\dots\dots^\circ$ [1]

8 Evaluate.

$$3^2 \times 4^{-2}$$

Answer..... [2]

9 Simplify

(a) $-3 - 4(2 - 5y)$,

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

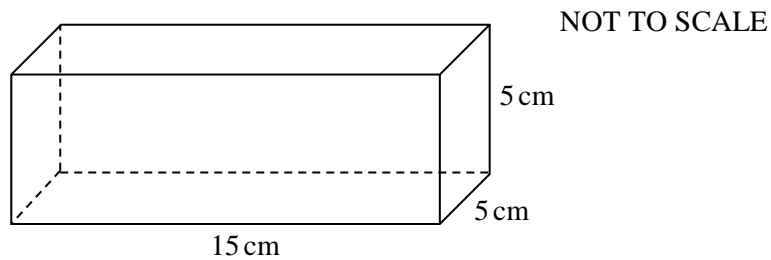
(b) $\frac{2t}{3} \div \frac{4t}{9}$.

Answer (b) [3]

10

The diagram shows a cuboid.

The cuboid has a length of 15 cm, width of 5 cm and height of 5 cm.



Calculate

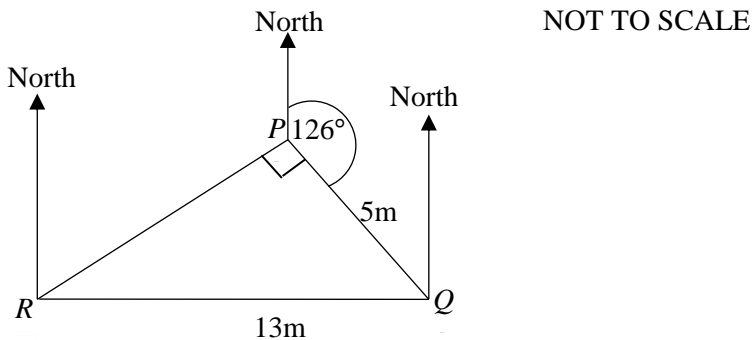
(a) the volume of the cuboid,

Answer (a)..... cm³ [2]

(b) the total surface area of the cuboid.

Answer (b).....cm² [2]

- 11** The diagram shows the positions of P , Q and R in a triangular plot.
 $PQ = 5$ m, $QR = 13$ m and $\hat{R}PQ = 90^\circ$
 Q is on a bearing of 126° from P .



(a) Calculate

- (i)** the bearing of P from Q ,

Answer (a)(i)..... ° [2]

- (ii)** the bearing of P from R .

Answer (a)(ii) ° [2]

(b) (i) Work out PR .

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

- (ii)** Write down the value of $\cos \hat{P}QR$ as a fraction.

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

12 Solve the equation.

$$2 + 3x = 10 - x$$

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

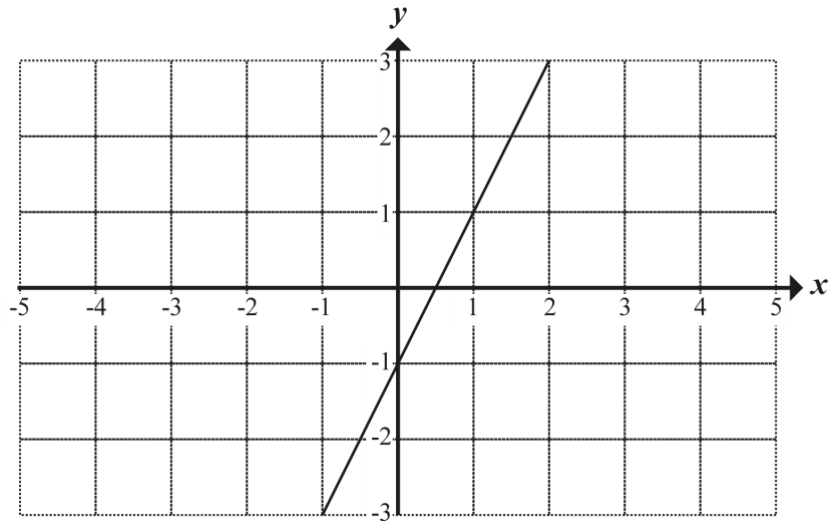
13 Express as a single fraction in its simplest form.

$$\frac{2y-5}{3} - \frac{y+1}{4}$$

Answer $\dots\dots\dots$ [3]

14 The diagram shows a straight line.

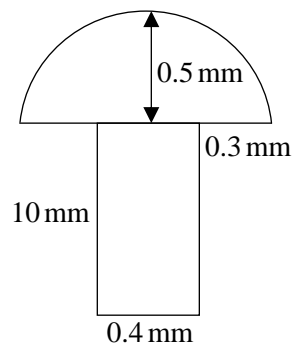
[improve diagram, write y on y axis at the top OR on the left, remove the protruding lines at the top]



Work out the equation of the line.

Answer..... [3]

- 15 The diagram shows the cross section of a screw.
It is made of a semi-circle of radius 0.5 mm and a rectangle.



NOT TO SCALE

Calculate the perimeter of the cross section of the screw.

Answermm [3]

SECTION B (48 marks)

For each question, four possible answers are given.

Work out and choose the correct answer.

Indicate your choice by a cross in the corresponding letter on the answer grid provided.

Example:

32 The gradient of the line represented by the equation, $y = 4x - 2$ is

A - 2 **B** 0 **C** 2 **D** 4

	A	B	C	D
32				X

16 $30 \div 5 + 5 - 18 \div 3 \times 2 =$

A 10 **B** 0 **C** - 1 **D** - 9

17 An angle greater than 180° but less than 360° is called

- A** obtuse angle
- B** reflex angle
- C** right angle
- D** acute angle

18 $\begin{pmatrix} 9 & -4 \\ -5 & 3 \end{pmatrix} + 2\begin{pmatrix} 4 & -1 \\ 3 & 6 \end{pmatrix} =$

A $\begin{pmatrix} 17 & -2 \\ 1 & 15 \end{pmatrix}$ **B** $\begin{pmatrix} 17 & 6 \\ 1 & 15 \end{pmatrix}$ **C** $\begin{pmatrix} 17 & -2 \\ -1 & -11 \end{pmatrix}$ **D** $\begin{pmatrix} 17 & -6 \\ 1 & 15 \end{pmatrix}$

19 200g of 0.5kg as a percentage is

- A 0.04% B 0.4% C 4% D 40%

20 The solution to the inequality $12 - y \leq 4y + 22$ is

- A $y \geq -2$ B $y \leq -2$ C $y = -2$ D $y > -2$

21 Kusa is given two pieces of wire mesh of the same length.

He makes a square fencing for his chickens and a circular fencing for his ducks.

The radius of the circular fencing is 10m.

The length of the side of the square fencing is

- A 314 B 31.4 C 15.7 D 7.85

22 The number 60 written as a product of its prime factors is

- A $1 \times 2^2 \times 3 \times 5$ B $2^2 \times 3 \times 5$ C $2^2 \times 15$ D $4 \times 3 \times 5$

23 The mean mass of 5 people is 75 kg.

The mean mass of 3 other people is 35 kg.

The mean mass of the 8 people is

- A 480kg B 110kg C 60kg D 13.75kg

24 $c^2 \times c^4 =$

- A c^8 B c^6 C c^2c^4 D c^{-2}

25 The scale of a map is 1:50 000.

The distance on the map represented by 6 km is

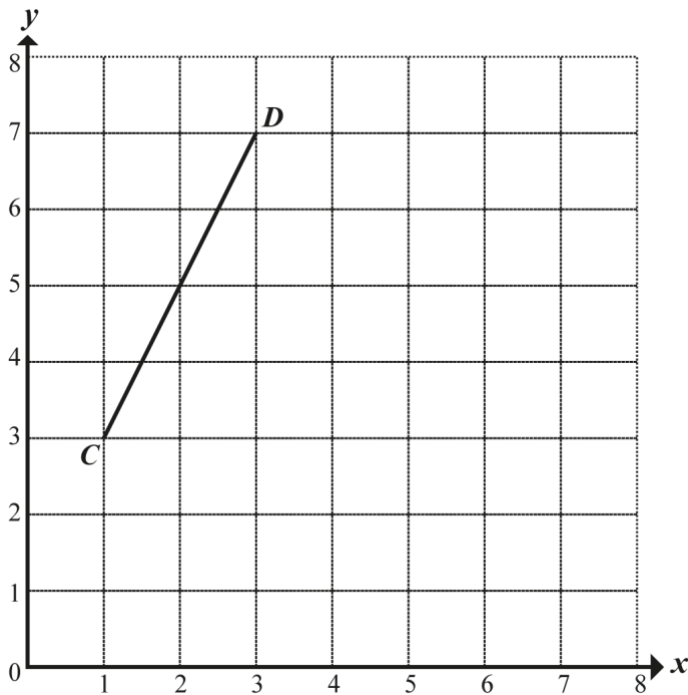
A 5 cm

B 6 cm

C 12 cm

D 120 cm

26 The grid shows the points $C(1,3)$ and $D(3,7)$. [make grids to be square, number both axis from 0 up to 8, write y at top of y axis]



\overrightarrow{DC} as a column vector is

A $\begin{pmatrix} 2 \\ 4 \end{pmatrix}$

B $\begin{pmatrix} -4 \\ -2 \end{pmatrix}$

C $\begin{pmatrix} 4 \\ 2 \end{pmatrix}$

D $\begin{pmatrix} -2 \\ -4 \end{pmatrix}$

27 A rhombus has

A 2 lines of symmetry and rotational symmetry of order 2.

B 4 lines of symmetry and rotational symmetry of order 4.

C 2 lines of symmetry and rotational symmetry of order 4.

D 4 lines of symmetry and rotational symmetry of order 2.

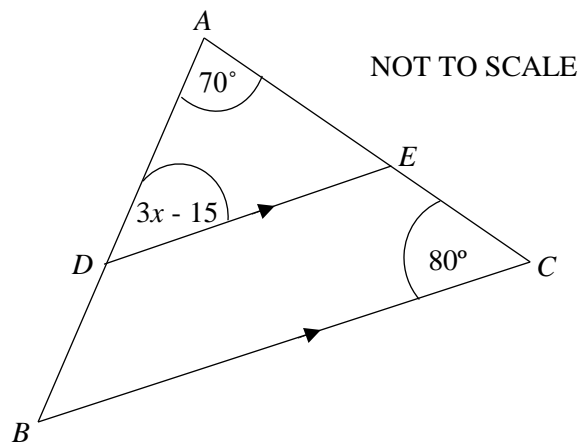
- 28 You are given that $A = 3 \times 10^5$ and $B = 6 \times 10^{-2}$.

The value of $\frac{A}{B}$ in standard form is

- A 0.5×10^7 B 5×10^6 C 2×10^7 D 5×10^3

- 29 The diagram shows two triangles, ABC and ADE .

DE is parallel to BC, $\hat{DAE} = 70^\circ$, $\hat{ADE} = (3x - 15)^\circ$ and $\hat{BCE} = (4x + 20)^\circ$.



The value of x is

- A 80 B 70 C 30 D 15

- 30 The image of the point $(2, 2)$ under the translation $\begin{pmatrix} 2 \\ -3 \end{pmatrix}$ is

- A $(4, 5)$ B $(4, -1)$ C $(0, -1)$ D $(0, 5)$

- 31 The median of the following numbers is

6 8 5 8 6 7 9 8

- A 7 B 7.125 C 7.5 D 8

SECTION B**MULTIPLE CHOICE ANSWER GRID**

Question number	A	B	C	D
16				
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