

SECTION A (52 Marks)Answer **all** questions

- 1 (a) Write down the value of 2 in the number 25.7

Answer (a)[1]

- (b) Express 400 g as a percentage of 5 kg.

Answer (b)[2]

- (c) Work out.

$$101 \div 0.05$$

Answer (c)[2]

- 2 $\frac{4}{7}$ of a number p is 28.

Find the number p .

Answer $p =$[2]

- 3 Simplify completely.

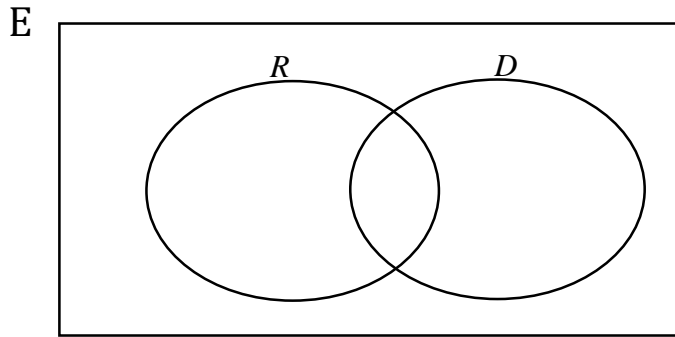
(a) $\frac{3x-4}{2} - \frac{x}{3}$

Answer (a)[3]

(b) $\frac{5y^3}{6} \div \frac{10y}{3}$

Answer (b)[2]

4 Shade the region $R' \cup D'$.



[2]

5 A group of 20 students were asked to give their favourite colours.

12 liked red.

5 liked white.

3 liked blue.

(a) A pie chart is to be drawn.

Calculate the sector angle for those who liked red.

Answer (a)[2]

(b) A student is chosen at random from the group.

Calculate the probability that the student

(i) liked either white or blue,

Answer (b)(i)[1]

(ii) liked neither red nor blue.

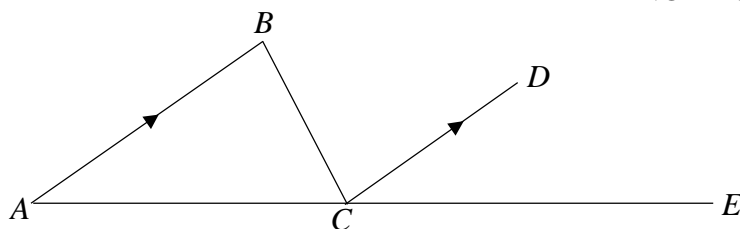
Answer (c)(ii)[1]

6 Write down the next two prime numbers after 47.

Answer..... [2]

7 In the figure below, ACE is a straight line.

AB is parallel to CD .



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(a) Name a pair of

(i) corresponding angles,

Answer (a)(i)[1]

(ii) alternate angles.

Answer (a)(ii)[1]

(b) You are also given that $\hat{BAC} = 38^\circ$ and $\hat{BCD} = 68^\circ$.

Calculate the angles

(i) \hat{ABC} ,

Answer (b)(i) $\hat{ABC} =$ [1]

(ii) \hat{DCE} ,

Answer (b)(ii) $\hat{DCE} =$ [1]

(iii) \hat{ACB} .

Answer (b)(iii) $\hat{ACB} =$ [1]

- 8** A family of 5 members went for a weekend holiday in Durban.
There were 2 adults and 3 children in the family.
The holiday cost for one adult was double the holiday cost for one child.
The total cost of the holiday was E42 000.

- (a)** If the cost of the holiday for one child is x , write down an equation to show the total cost of the holiday for the family.

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

- (b)** Solve the equation in **(a)** to calculate the cost of a holiday for one child.

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

9 The area of a lake is $1\,643.685\text{ m}^2$.

Write this area,

(a) in standard form correct to 1 significant figure,

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

(b) correct to 1 decimal place,

Answer (b)..... m^2 [1]

(c) to the nearest 30.

Answer (c)..... m^2 [2]

10 Vanessa bought a school bag for E 240 and sold it at E 300.

Calculate her percentage profit.

Answer.....% [2]

- 11 A film started at 9 45 p.m. and ended at 11 10 p.m.
Calculate for how long the film played.

Answer[2]

- 12 The equation of a straight line is $y = 3x + 2$.
The straight line passes through $(p, -7)$ and $(1, q)$.
Find the values of p and q .

Answer $p =$ [2]

$q =$ [1]

13 A plane flew from airport A to B on a bearing of 100° for 120 km.

It then flew to airport C on a bearing of 060° for 140 km.

- (a) Using a scale of 1 cm to 20 km, make an accurate drawing showing the positions of A , B and C .

[3]

- (b) The plane then flew back directly from C to A .

Find

- (i) the actual direct distance from C to A ,

Answer (b)(i) km[2]

- (ii) the bearing of B from C .

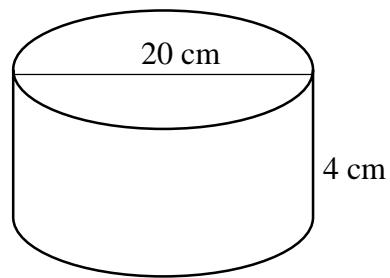
Answer (b)(ii) [1]

14 State the number of terms in the expression

$$15pq - 20pr + \frac{10+p}{7}$$

Answer [1]

15 An open cylinder has a diameter of 20 cm and a height of 4 cm.



NOT TO SCALE

Taking π as 3.14, calculate

(a) the volume of the cylinder,

Answer (a)cm³ [2]

(b) the curved surface area of the cylinder.

Answer (b)cm² [2]

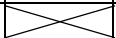
SECTION B

For each question, four possible answers are given. Work out which one is correct and mark it with a pencil on the answer grid provided.

Example

60 The Highest Common Factor of 24 and 36 is

- A 18 B 12 C 6 D 4

	A	B	C	D
60				

16 Choose a statement that is **false** about a rhombus.

- A all four sides are equal in length
B has rotational symmetry of order 4
C has two pairs of equal angles
D has two lines of symmetry

17 $7^0 \times 3^{-2} =$

- A -21 B -6 C $\frac{1}{9}$ D $\frac{1}{6}$

18 The largest integer value of y such that $6 > 2y - 3$ is

- A 3 B 4 C 4.5 D 5

19 $(0.2)^3 =$

- A 0.8 B 0.08 C 0.006 D 0.008

- 20 The mean of eight numbers is 13.
When one number is removed, the mean of the seven numbers is 12.

The number that is removed is

- A 1 B 20 C 84 D 104

- 21 From the sets of numbers below, select a set of triangular numbers.

- A {1, 3, 6, 10, 15} B {1, 4, 9, 16, 25} C {1, 8, 27, 64, 125}

- D {4, 6, 8, 9, 10}

- 22 Two points joined by a straight line on the circumference of a circle form a

- A radius B segment C chord D arc

- 23 The solution to the equation $\frac{1}{2}(2p - 8) = 5$ is

- A $p = 13$ B $p = 9$ C $p = 6.5$ D $p = 1$

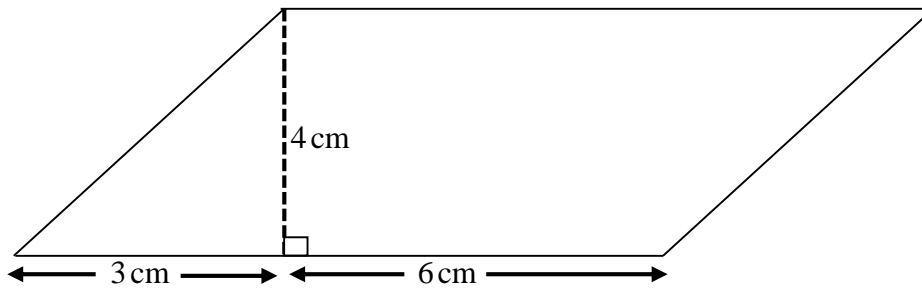
- 24 Given that $\sqrt{15} = 3.87$ and $\sqrt{1.5} = 1.22$

Then $\sqrt{150} =$

- A 38.7 B 12.2 C 0.387 D 0.122

25 The perimeter of the parallelogram below is

NOT TO SCALE



A 36

B 28

C 22

D 18

26 The estimate of $\frac{78.265 \times 0.0862}{0.872}$ correct to 1 significant figure, is

A 0.8

B 7.7

C 8

D 80

27 The median of the distribution

5 2 7 3 4 3 is

A 5

B 4

C 3.5

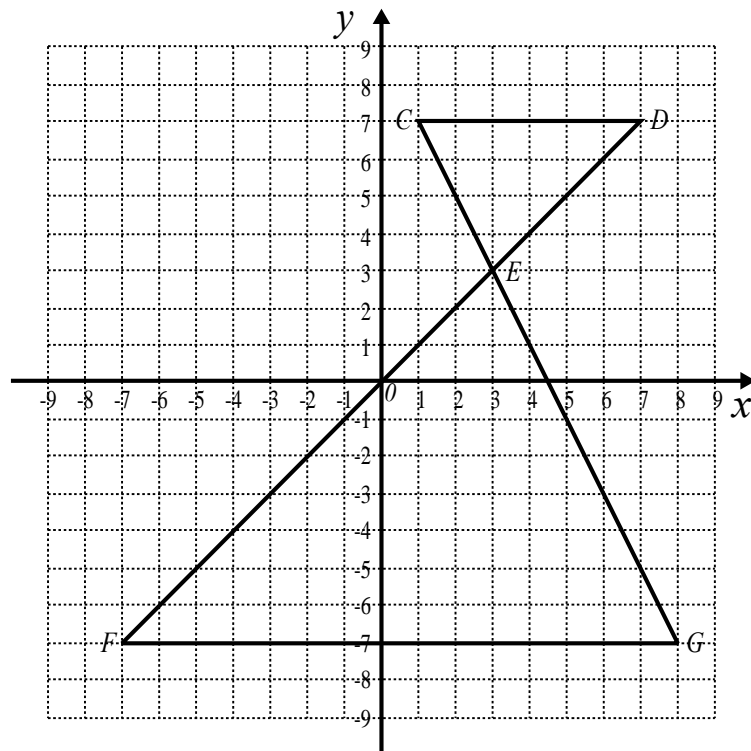
D 3

$$28 \quad 3 \begin{pmatrix} -2 \\ 2 \end{pmatrix} - 2 \begin{pmatrix} 5 \\ -1 \end{pmatrix} =$$

$$\mathbf{A} \begin{pmatrix} 4 \\ 4 \end{pmatrix} \quad \mathbf{B} \begin{pmatrix} 16 \\ -8 \end{pmatrix} \quad \mathbf{C} \begin{pmatrix} -16 \\ 4 \end{pmatrix} \quad \mathbf{D} \begin{pmatrix} -16 \\ 8 \end{pmatrix}$$

Use the diagram below to answer Q29 and Q30

The diagram shows triangle CED which is mapped onto triangle GEF by an enlargement centre E .



29 The scale factor of this enlargement is

$$\mathbf{A} \frac{5}{2} \quad \mathbf{B} \frac{2}{5} \quad \mathbf{C} -\frac{2}{5} \quad \mathbf{D} -\frac{5}{2}$$

30 Given that $CE = 5$ cm, calculate the length of EG in cm.

- A 10 cm B 12.5 cm C 15 cm D 17.5 cm

31 The expression $4 - 2(3a - 5) + 8a$ simplifies to

- A $2a - 6$ B $a + 7$ C $2a + 14$ D $14a - 10$
-

SECTION B**MULTIPLE CHOICE ANSWER GRID**

Question number	A	B	C	D
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