Space for worki

SECTION A [10 MARKS]

1 Evaluate $-2 + (-8)$.

A 10

B 6

C -6

D -10

2 Find the value of $2^3 + 4^2$.

A 24

B 14

C 12

D 6

3 Write 58.234 correct to one significant figure.

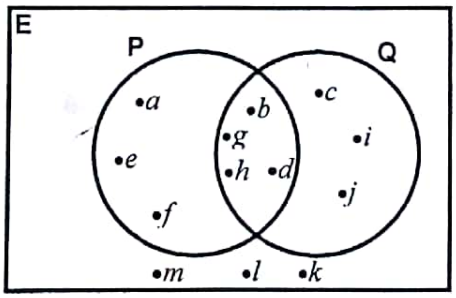
A 5

B 6

C 58

D 60

4 The Venn diagram below shows sets P and Q.



List the elements of $P' \cap Q$.

A $\{k, l, m\}$

B $\{b, d, g, h\}$

C $\{c, i, j\}$

D $\{a, e, f\}$

5 Which of the following is an input device?

A Printer

B Keyboard

C Monitor

D Speaker

Space for working

6 A girl scored 17, 43, 15, 22 and 18 in Mathematics weekly tests. Find the mean score.

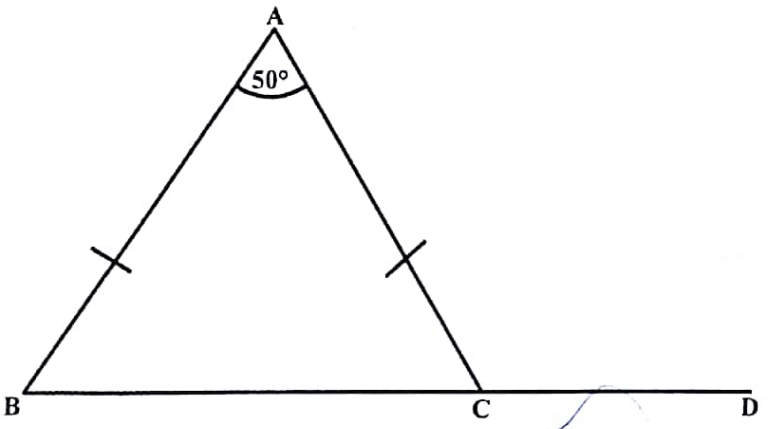
A 23

B 22.8

C 18

D 15

7 In the diagram below, BCD is a straight line, angle BAC = 50° and AB = AC.



Find the angle ACD.

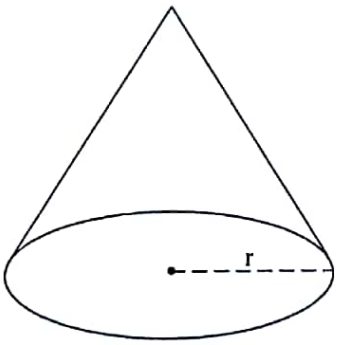
A 130°

B 120°

C 115°

D 65°

8 How many faces does the solid below have?



A 3

B 2

C 1

D uncountable

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9 Which of the following is a rational number?

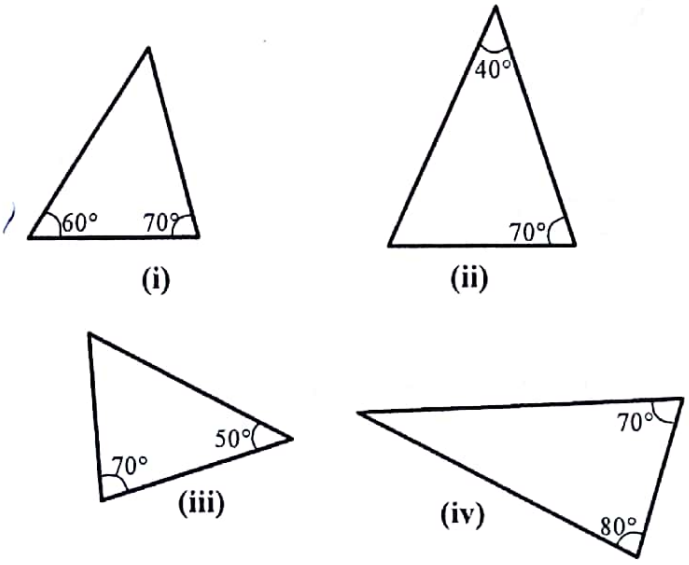
A $\sqrt{2}$

B $\sqrt{3}$

C $\sqrt{4}$

D $\sqrt{5}$

10 Study the diagrams below.



Which of the triangles above are similar?

A (i) and (ii)

B (i) and (iii)

C (ii) and (iii)

D (ii) and (iv)

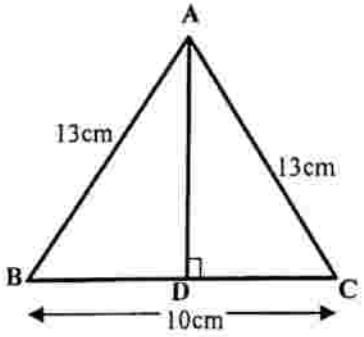
Space for working

SECTION B [40 MARKS]

11 Factorise completely $5ab^2 - 10ab$.

12 Solve the equation $2x + 13 = 3$.

13 In the diagram below, BDC is a straight line. AD is perpendicular to BC, AB = AC = 13cm and BC = 10cm.



Find the length of AD.

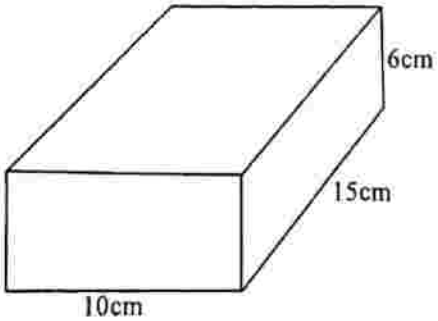
14 Given that $x = -2$ and $y = 1$, find the value of $4x^2 - 3xy$.

15 Given that matrix N = (5 −6 2),

(i) state the order of matrix N,

(ii) find 3N.

16 In a Woodwork practical, Jenipher cut a wooden block of length 15cm, breadth 10cm and height 6cm as shown below.

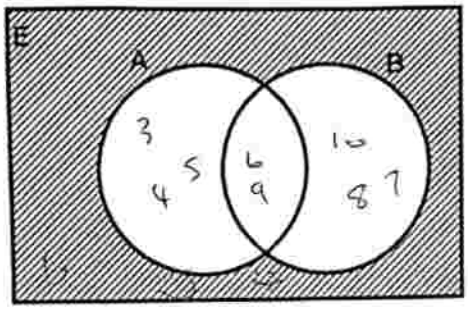


Given that the density of the wooden block is 0.05g/cm^3, find its mass.

Space for working

17 Mr Kantwa deposited K6 000.00 in a bank at the rate of 30% simple interest per annum for 9 months. Calculate the interest.

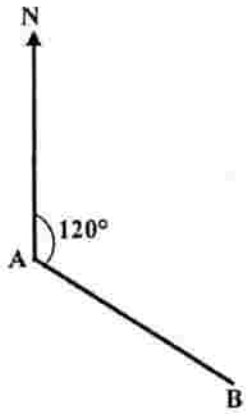
18 The Venn diagram below illustrates sets A and B.



Use set notation to describe the shaded region.

19 Simplify $-3x + 2y + x - y$.

20 In the diagram below, the bearing of B from A is 120°.

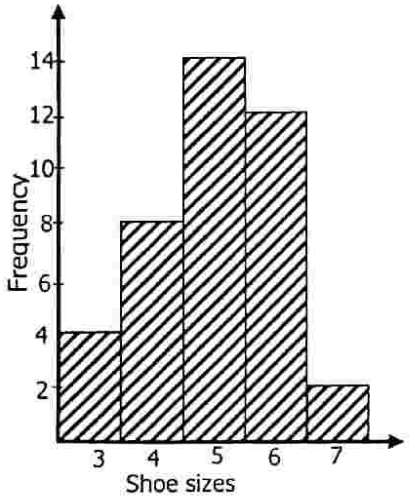


Find the bearing of A from B.

21 Find the size of each exterior angle of a regular hexagon.

Space for working

22 The bar chart below shows the distribution of the pupils' shoe sizes in a grade 9 class.



Find the number of pupils who wear size 5 and above.

23 Convert 11.011_2 to base 10.

24 Fine the value of $\sqrt[3]{8} + \sqrt{16}$.

25 Chidoki had K100.00 to buy the following items:

1kg kapenta at K20.00 per kg,

2 packets of tomatoes at K10.00 per pack,

2 heads of cabbage at K5.00 per head,

3kg of beans at K15.00 per kg.

(i) How much did she pay altogether?

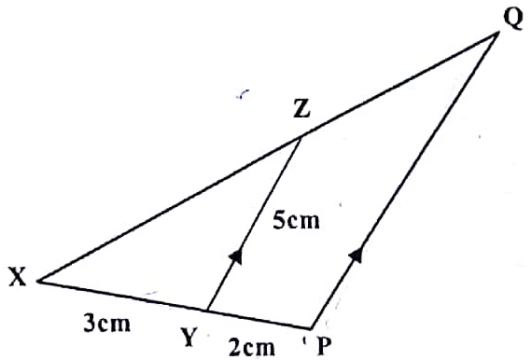
(ii) How much was her change?

26 In an election, 80 000 people voted. The votes that candidates A, B and C got were in the ratio 9 : 5 : 2 respectively. How many votes did candidate B receive?

Space for working

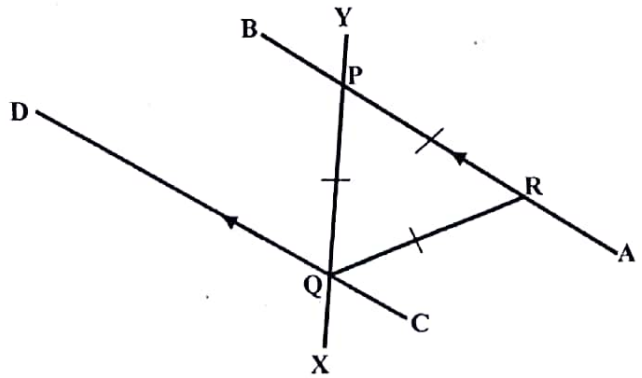
27 (a) Given that $f(x) = 7 - 3x$, find $f(-3)$.

(b) In the diagram below, YZ is parallel to PQ, XY = 3cm, YP = 2cm and YZ = 5cm.



Find the ratio YZ : PQ.

28 In the diagram below, lines AB and CD are parallel. The line XY crosses AB and CD at P and Q respectively. R is on AB such that QR = RP = PQ.

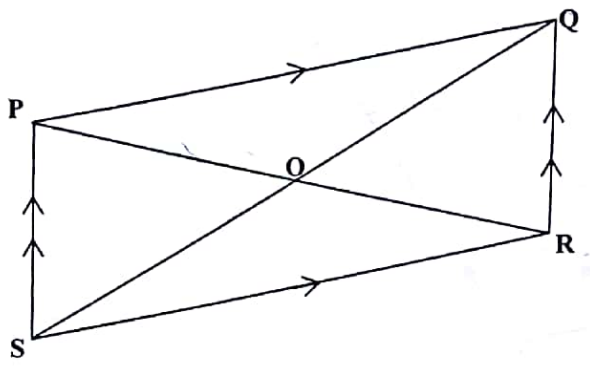


Find angle DQY.

29 Solve the inequation $7 + 2x > 5$.

Space for working

30 The diagram below shows a parallelogram PQRS with its diagonals crossing at point O.



Name a pair of congruent triangles.