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1 Evaluate.

(a) $3.6 \div 0.03$

..... [1]

(b) $3\frac{1}{8} \times 3\frac{1}{5}$

..... [2]

-
- 2 (a) By rounding each number in the calculation correct to **one** significant figure, estimate the value of $\frac{5.62 \times 230}{0.34}$

..... [2]

- (b) Express 360 as a product of its prime factors.

..... [2]

- 3 (a) $P = 3.6 \times 10^3$ and $Q = 1.2 \times 10^2$.

Calculate $P - Q$, giving your answer in standard form.

- (b) Evaluate.

$$\sqrt[3]{3\frac{3}{8}}$$

.....[2]

.....[2]

- 4 Domo invests M8000 in the bank which offers simple interest at the rate of 3% per annum.

Calculate the number of years for which Domo will get a total interest of M1200.

.....[3]

- 5 The interior angle of a regular polygon is 108° .

Calculate the number of sides of the polygon.

..... [2]

- 6 A car is valued at M320 000.

The car depreciates by 5% every year.

Calculate the new value of the car at the end of the first year.

M..... [2]

7 $\mathbf{A} = \begin{pmatrix} -1 & 3 \\ 2 & 5 \end{pmatrix}$ and $\mathbf{B} = \begin{pmatrix} 3 & 2 \\ 1 & 0 \end{pmatrix}$.

Find

(a) $3\mathbf{B}$,

(b) $\mathbf{A} - \mathbf{B}$.

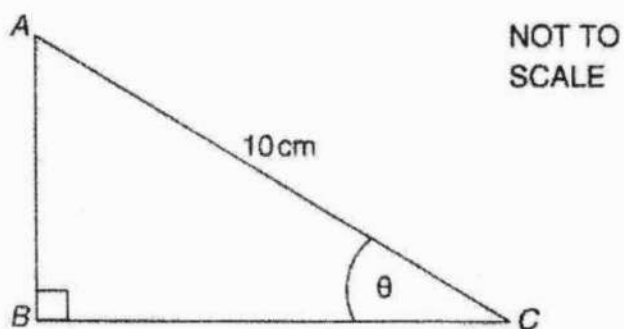
..... [1]

..... [2]

8 Solve $\frac{2x-1}{3} = \frac{x+2}{4}$

$x = \dots\dots\dots$ [3]

9 In the right angled triangle ABC , $AC = 10$ cm, angle $ACB = \theta$ and $\sin \theta = \frac{3}{5}$.



Find

(a) the length of AB ,

$\dots\dots\dots$ cm [2]

(b) the value of $\tan \theta$.

$\dots\dots\dots$ [1]

10 Factorise completely.

(a) $8x^2 - 50$

..... [2]

(b) $x^2 - 5x - 6$

..... [2]

11 Mr Phela has 120 animals which are cows, horses and goats.
20% of the animals are cows.

(a) This information is drawn on a pie chart.

Calculate the sector angle which represents the number of cows.

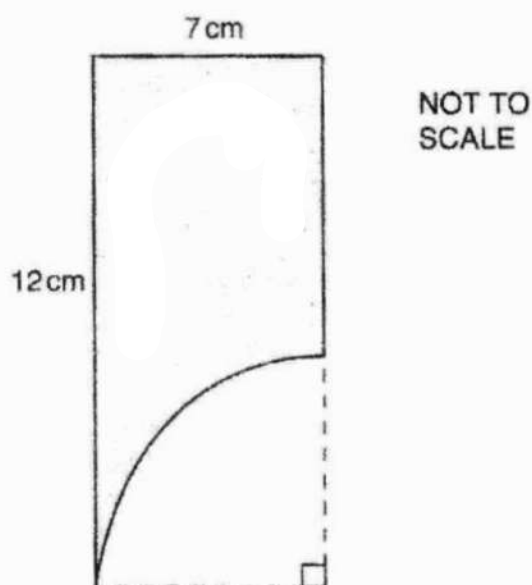
.....° [2]

(b) One animal is chosen at random from Mr Phela's animals.

Calculate the probability that the animal chosen is either a horse or a goat.

..... [2]

- 12 The diagram shows a rectangle and a part from which a quarter-circle was cut. The length of the rectangle = 12 cm and the width = 7 cm.



Take π as $\frac{22}{7}$.

- (a) Show that the area of the quarter-circle is 38.5 cm^2 .

[2]

- (b) Calculate the area of the shaded part.

..... cm^2 [2]

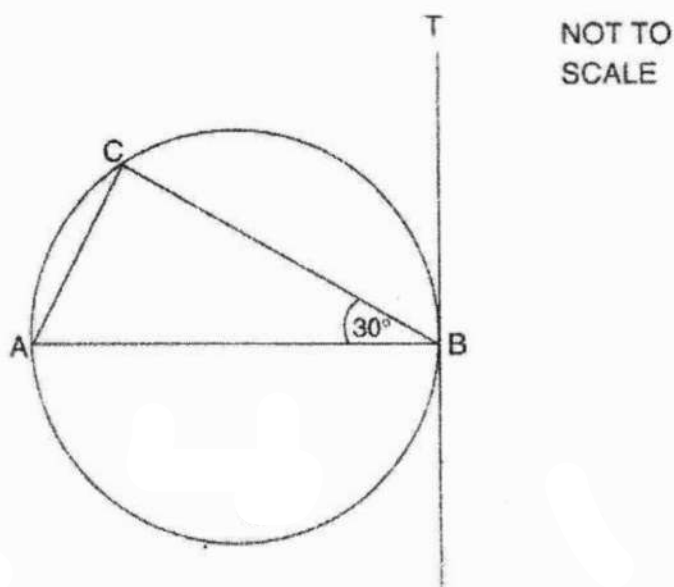
13 Solve the simultaneous equations.

$$\begin{aligned}x + 2y &= 7 \\ 2x + 3y &= 8\end{aligned}$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots [3]$$

- 14 The diagram shows a circle with points A, B and C on the circumference. AB is the diameter of the circle and BT is a tangent to the circle at B. Angle $ABC = 30^\circ$.



Find the size of the indicated angles and give a reason for your answer.

- (a) angle $CBT = \dots\dots\dots^\circ$ and reason $\dots\dots\dots$

$\dots\dots\dots [2]$

- (b) angle $BAC = \dots\dots\dots^\circ$ and reason $\dots\dots\dots$

$\dots\dots\dots [2]$

15 The table shows the ages of 30 boys.

Age	10	11	12	13	14
Frequency	18	2	5	2	3

(a) Find the modal age.

..... [1]

(b) Calculate the mean age.

..... [3]

16 A straight line passes through the points $P(0, 3)$ and $Q(-2, 1)$.

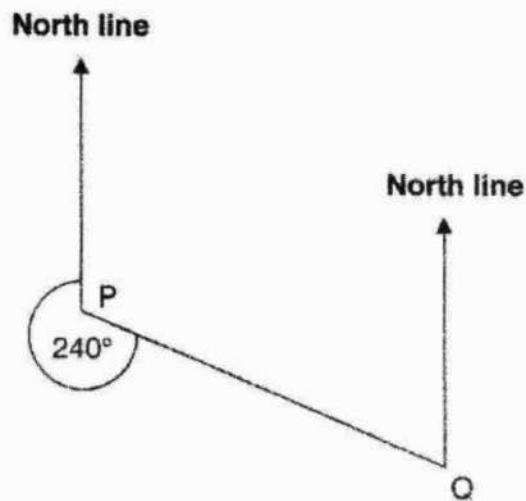
(a) Find the gradient of the line PQ .

..... [2]

(b) Write the equation of the line.

..... [1]

17 Find the bearing of P from Q in the diagram.



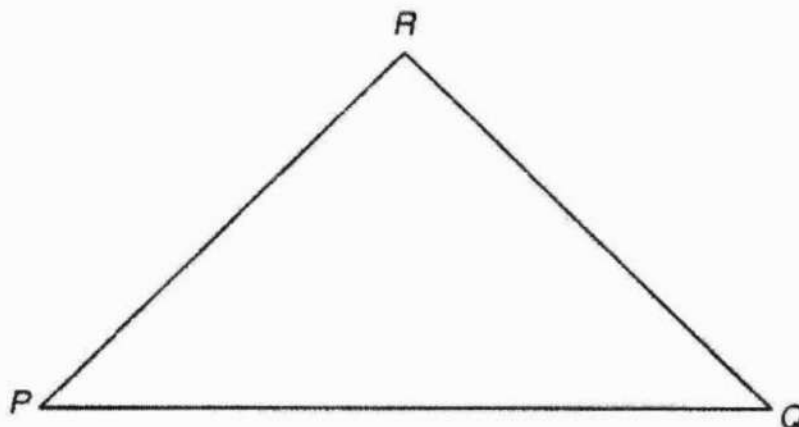
..... [2]

18 $f(x) = 3 - x$.

Find $f(-2)$.

$f(-2) =$ [2]

19 The diagram shows triangle PQR .



(a) Measure and write the size of angle PRQ .

.....° [1]

(b) By construction, bisect angle RPQ .

[2]