

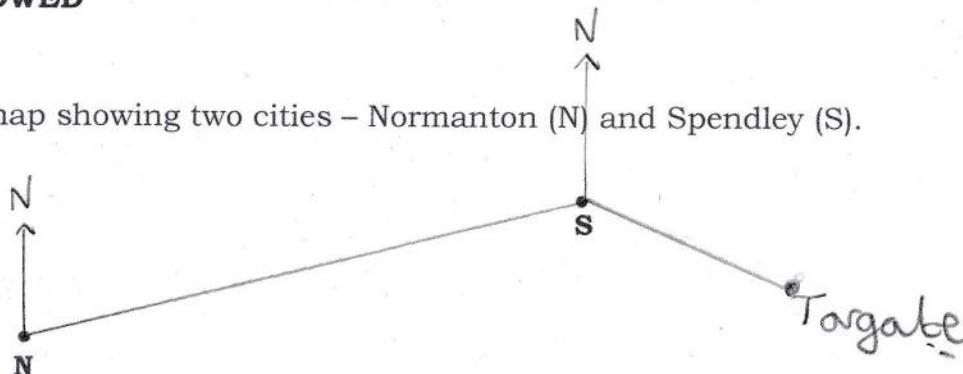
**HIGHER TIER
MINI PRACTICE EXAM 7**



metatutor

**NON-CALCULATOR
20 MINUTES ALLOWED**

1.
Below is part of a map showing two cities – Normanton (N) and Spendley (S).



Scale: 1cm = 4 km

- (a) Measure the three-figure bearing of Spendley from Normanton.

077° (within 2 of this answer) (1)

- (b) Targate is located 12 kilometres from Spendley on a bearing of 111°. Mark Targate on the map.

(2)

2.

- (a) List all integers that satisfy the inequality $-3 \leq x < \frac{21}{5} = 4\frac{1}{5}$

$-3, -2, -1, 0, 1, 2, 3, 4$

(2)

- (b) Solve $22 - 3x > 10$

$$\begin{array}{r} -22 \qquad -22 \\ -3x > -12 \\ \div -3 \qquad \div -3 \end{array}$$

$x < 4$

(2)

3.

Simplify fully $\frac{x^2 + 4x - 12}{x^2 - 4}$

$$\frac{(x+6)(\cancel{x-2})}{(x+2)(\cancel{x-2})} = \frac{x+6}{x+2}$$

(3)

4.

A group of 60 people chose two activities.

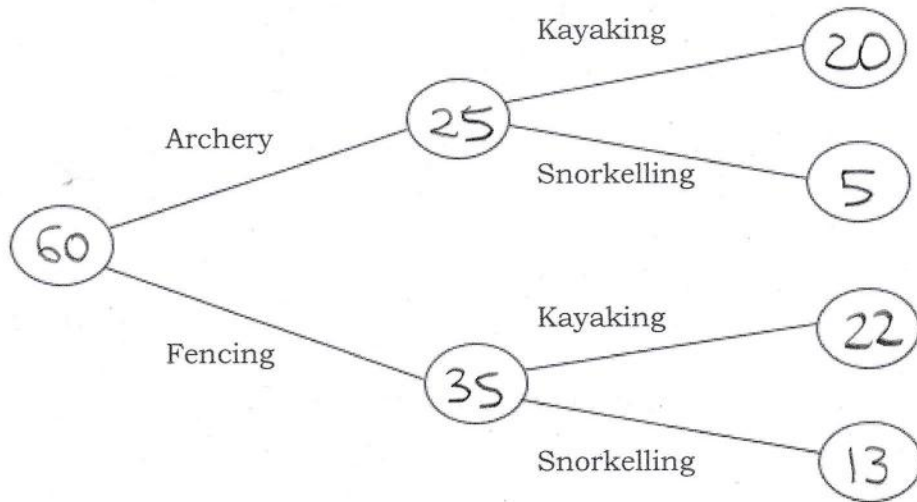
They chose either archery or fencing, and either kayaking or snorkelling.

22 of the group chose fencing and kayaking.

30% of the group chose snorkelling.

$\frac{4}{5}$ of the people who chose archery chose kayaking.

(a) Complete the frequency tree.



$$60\% \text{ of } 30 = 18 = \text{snorkelling}$$

$$22 + 18 = 40$$

$$60 - 40 = 20 = \text{archery \& kayaking}$$

$$\frac{4}{5} = 20 \div 5 = 4 \times 5 = 20$$

(4)

(b) If a person who chose fencing is chosen at random, what is the probability that they chose snorkelling?

$$\frac{13}{35}$$

(1)

5.

AC is the diameter of the circle.

AB = 8 cm and $\angle ACB = 30^\circ$.

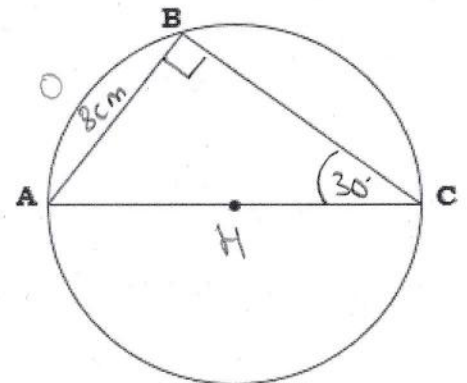
Show that the area of the circle is $64\pi \text{ cm}^2$.

S^o H

$$H = \frac{8}{\sin 30} = \frac{8}{0.5} = 16$$

Diameter = 16 cm, Radius = 8 cm

$$\text{Area} = \pi \times 8^2 = \underline{64\pi \text{ cm}^2}$$



(5)