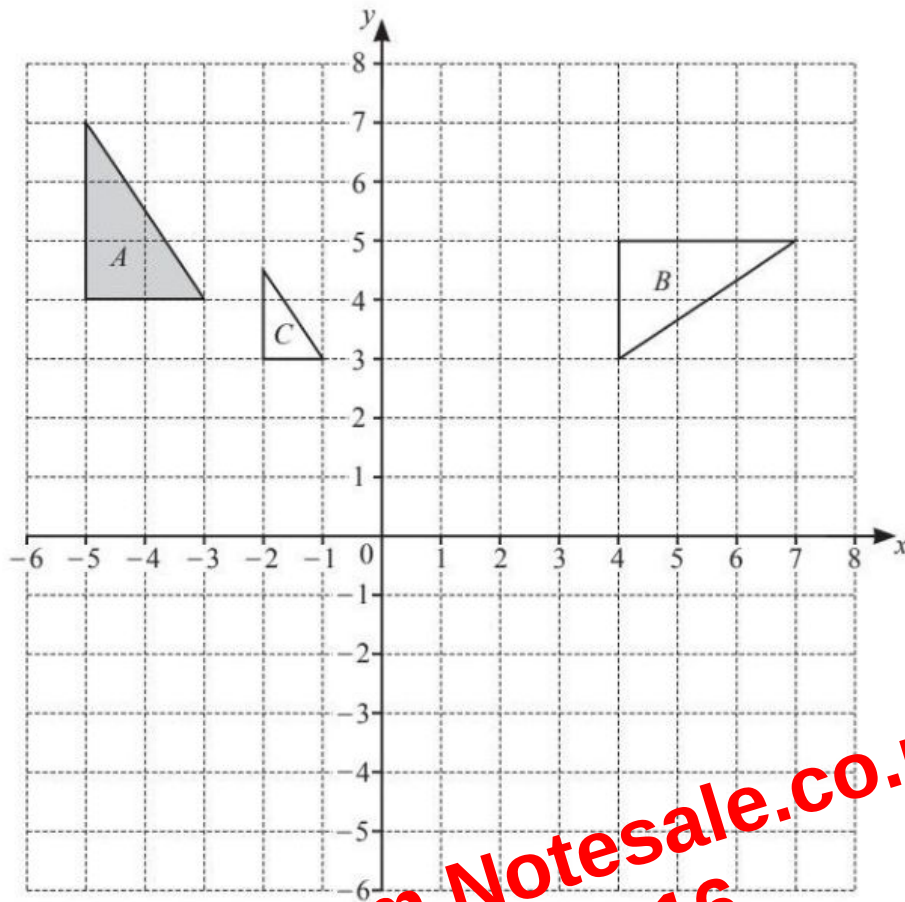


- 5 Triangles A , B and C are shown on the grid.



- (a) Describe fully the single transformation that maps

(i) triangle A onto triangle B .

Rotation 90° clockwise

[centre] (0, 0)

[3]

(ii) triangle A onto triangle C .

Enlargement [sf] 0.5

[centre] (1, 2)

[3]

- (b) On the grid,

(i) translate triangle A by the vector $\begin{pmatrix} 6 \\ -2 \end{pmatrix}$,

B1 for translation of (6, k) or (k, -2)

Triangle at (3, 2) (1, 5) (1, 2) [2]

(ii) reflect triangle A in the line $y = 1$.

Triangle at (-3, -2) (-5, -2) (5, -5) [2]

B1 for reflection in $y = k$ or $x = 1$

- (b) The amount of fuel, t litres, in the boat's fuel tank is 135 litres, correct to the nearest litre.

Complete the statement about the value of t .

$$\dots\dots\dots 134.5 \leq t < \dots\dots\dots 135.5 \dots\dots\dots [2]$$

- (c) Marco has ropes of four different colours.
He takes a rope at random.

Colour	Brown	White	Red	Green
Probability	0.35		0.04	0.2

Complete the table. M1 for $1 - (0.35 + 0.04 + 0.2)$

0.41 [2]

- (d) When Marco arrives at a port the temperature is 5°C .
At midnight the temperature has fallen by 7°C .

Find the temperature at midnight.

$$\dots\dots\dots -2 \dots\dots\dots ^{\circ}\text{C} [1]$$

- (e) Last year the cost to keep a boat at the port was \$14 per night.
This year the cost has increased by 12%.

Calculate the cost this year.

M1 for $(1+12/100) \times 14$

$$\text{\$} \dots\dots\dots 15.68 \dots\dots\dots [2]$$

- (f) Marco watched 25 boats enter the port, of which 9 had a mast.
There are a total of 200 boats in the port.

Calculate an estimate of the number of boats in the port that have a mast.

M1 for $9/25 \times 200$

$$\dots\dots\dots 72 \dots\dots\dots [2]$$

Question 9 is printed on the next page.