Trial Trail Revision #3

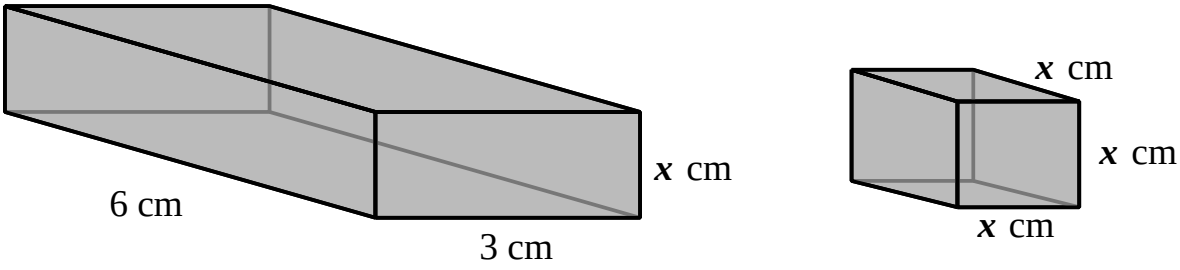
IGCSE Mathematics
Trial Trail Revision Papers

Answer as many questions as you can
You are expected to have a calculator available
Marks Available : 40

Question 1
For his motorbike, Fergus buys *x* litres of petrol at 161 pence per litre.
He has to pay £30.59 in total for the petrol bought.
How many litres of petrol did Fergus buy ?

[2 marks]

Question 2
The diagram shows a cuboid and a cube.



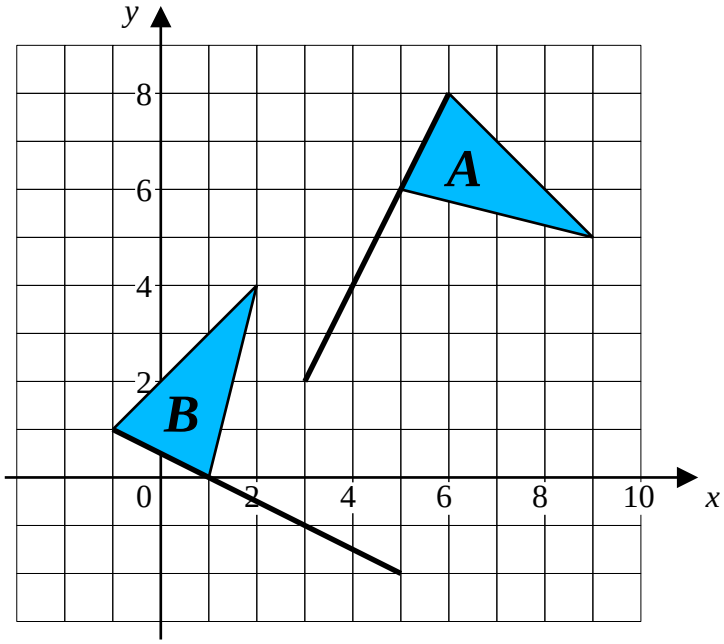
The dimensions of the cuboid are *x* cm by 6 cm by 3 cm
The volume of the cuboid is 45 cm^3

The cube has sides of length *x* cm

Work out the volume of the cube.
Give your answer correct to one decimal place.

[4 marks]

Question 3



The diagram shows two flags labelled ***A*** and ***B***

(i) Translate flag ***A*** by the vector $\begin{pmatrix} -4 \\ 1 \end{pmatrix}$

Label this new flag with the letter ***C***

[2 marks]

(ii) Find a single transformation that moves flag ***A*** to flag ***B***

[3 marks]

Question 4

Solve these simultaneous equations;

$$5x + 6y = 9$$

$$2x + 3y = 3$$

[4 marks]

Question 5

Expand the brackets and simplify,

(i) $(3x + 5)(2x - 1)$ **(ii)** $(4x + 3)^2$

[3, 3 marks]

Question 6

Find the median of these five numbers;

43 28 37 30 12

[2 marks]

Question 7

Two similar shapes have an area scale factor between them of 25.
What is the length scale factor between the two similar shapes ?

[1 mark]

Question 8

Consider the functions, f and g, given by,

$$f(x) = 3x + 4$$

$$g(x) = 2x - 3$$

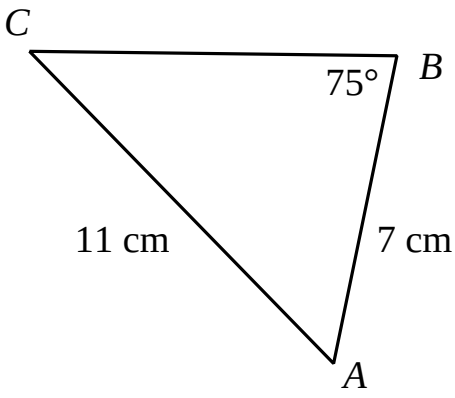
Calculate the value of:

(i) $f(7)$ **(ii)** $gg(11)$ **(iii)** $fg(4)$

[1, 2, 3 marks]

Question 9

The diagram shows triangle *ABC*



Calculate the size of angle *BAC*
Give your answer correct to 1 decimal place.
Show clear working.

[5 marks]

Question 10

Quadratic equations, which are of the form,

$$a\,x^2 + b\,x + c = 0$$

where a, b and c are constants, and x is a variable, have solutions given by,

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Consider the equation;

$$5\,x^2 + 7x + 2 = 0$$

Show how the above formula could be used to solve this equation.

[5 marks]