Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1. Work out 5.4×0.24

....

(Total 3 marks)

_____

2. The height, H cm, of a table is measured as 72 cm correct to the nearest centimetre.

Complete the following statement to show the range of possible values of H.

.... $\leq H <$ ....

(Total 2 marks)

_____

3. Jane has a carton of orange juice.
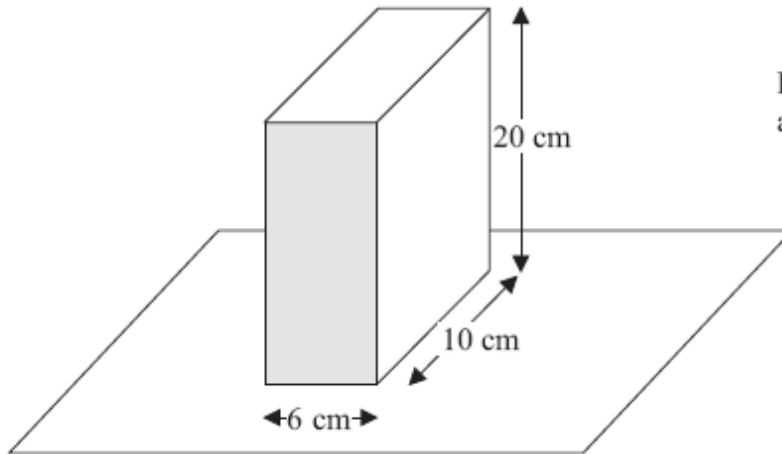The carton is in the shape of a cuboid.

Diagram **NOT**
accurately drawn

20 cm

10 cm

6 cm

The depth of the orange juice in the carton is 8 cm.

Jane closes the carton.
Then she turns the carton over so that it stands on the shaded face.

Work out the depth, in cm, of the orange juice now.

.... cm
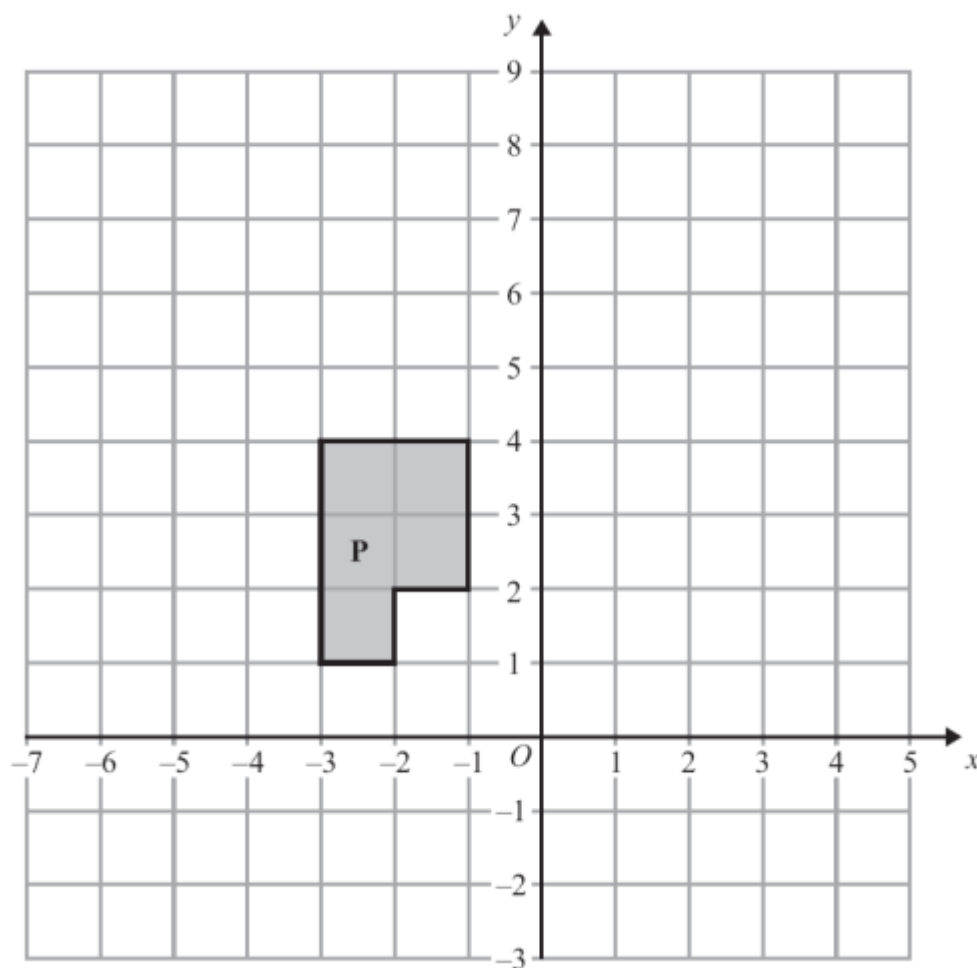
(Total 3 marks)

4. Write the following numbers in order of size.
Start with the smallest number.

$$0.038 \times 10^2 \qquad 3800 \times 10^{-4} \qquad 380 \qquad 0.38 \times 10^{-1}$$

....
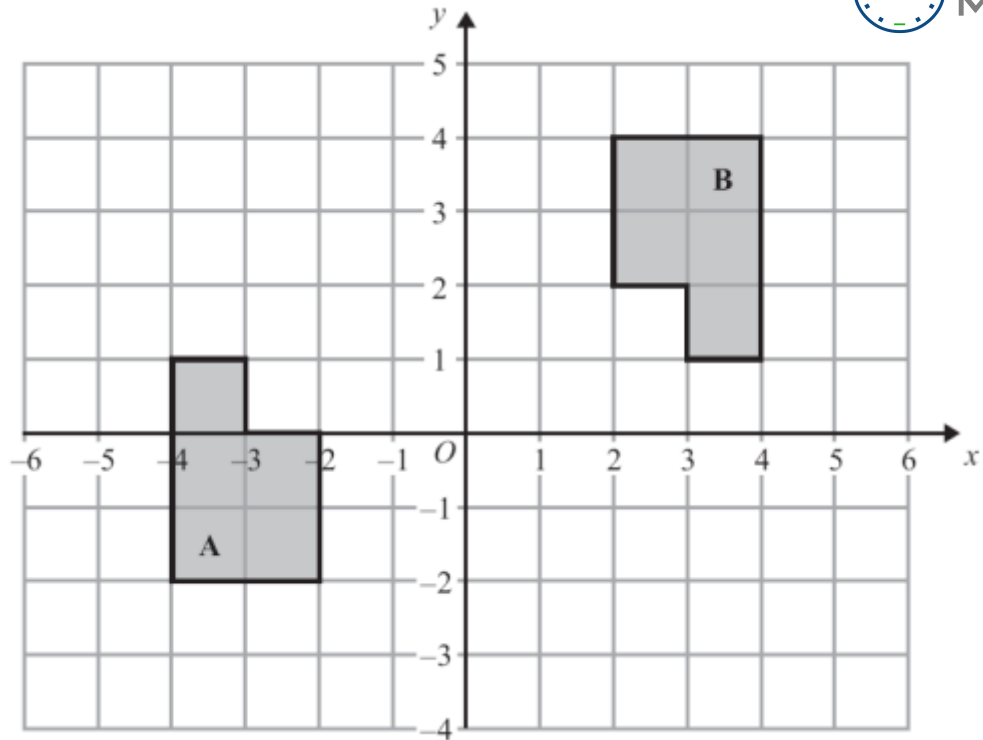
(Total 2 marks)

5.

(*a*) Translate shape P by the vector $\begin{pmatrix} 5 \\ -2 \end{pmatrix}$.

(2)

(*b*) Describe fully the single transformation that maps shape **A** onto shape **B**.

....

....

(3)

(Total 5 marks)

_____

6. (a) Simplify $\dfrac{(x+2)^2}{x+2}$

....

(1)

(b) Simplify $2a^2b \times 3a^3b$

....

(2)

(Total 3 marks)

_____

7. Talil is going to make some concrete mix.
He needs to mix cement, sand and gravel in the ratio 1 : 3 : 5 by weight.

Talil wants to make 180 kg of concrete mix.

Talil has

     15 kg of cement

     85 kg of sand

     100 kg of gravel

Does Talil have enough cement, sand and gravel to make the concrete mix?

(Total 4 marks)

8. Suha has a full 600 m*l* bottle of wallpaper remover.
She is going to mix some of the wallpaper remover with water.

Here is the information on the label of the bottle.

> **Wallpaper remover**
> 600 m*l*
>
> Mix $\frac{1}{4}$ of the wallpaper remover
> with 4500 m*l* of water

Suha is going to use 750 m*l* of water.

How many millilitres of wallpaper remover should Suha use?
You must show your working.

....m*l*

(Total 4 marks)