## Geometry (Q 4, Paper 2)

## 2010

4 (a) In the diagram,

$$
|B C|=|B D| \text { and }|\angle A B D|=118^{\circ} .
$$

(i) Find $x$.
(ii) Find $y$.

(b) Prove that if three parallel lines make intercepts of equal length on a transversal, then they will also make intercepts of equal length on any other transversal.
(c) (i) Draw a square $O A B C$ with side 4 cm and label the vertices.
(ii) Draw the image of the square under the enlargement with centre $O$ and scale factor $2 \cdot 5$.
(iii) Calculate the ratio area of image square : area of original square.
(iv) Another square, $O P Q R$, is the image of the square $O A B C$ under a different enlargement with centre $O$.
The area of $O P Q R$ is $324 \mathrm{~cm}^{2}$. Calculate the scale factor of this enlargement.

## Answers

4
(a) (i) $62^{\circ}$
(ii) $59^{\circ}$
(c) (iii) $25: 4$
(iv) 4.5

