## Geometry (Q 4, Paper 2)

## 1998

4 (a) In the triangle $a b c,|a d|=|b d|$, $|\angle a b d|=|\angle d b c|$ and $|\angle d a b|=48^{\circ}$. Find $|\angle d c b|$.

(b) Prove that if the lengths of two sides of a triangle are unequal, then the degreemeasures of the angles opposite to them are unequal, with the greater angle opposite to the longer side.
(c) The triangle $x y z$ is the image of the triangle dgh under the enlargement, centre $o$, with $|d g|=8,|x z|=12$ and $|x y|=9$.

(i) Find the scale factor of the enlargement.
(ii) Find $|d h|$.
(iii) The area of the triangle $x y z$ is 27 square units. Find the area of the triangle dgh.

## Answers

4 (a) $36^{\circ}$
(b) (i) 1.5
(ii) 6
(iii) 12 square units

