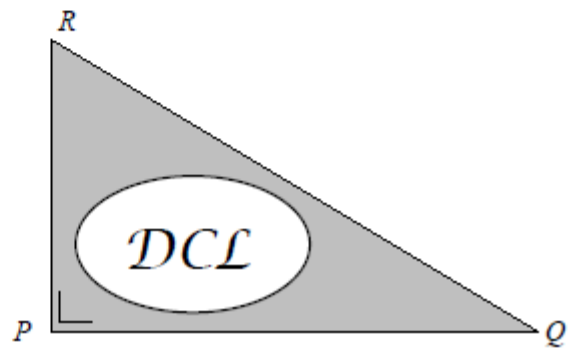
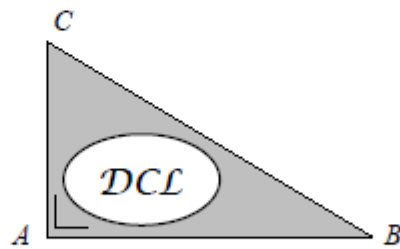


Question 7

(35 marks)

The diagram below shows the right-angled triangle  $ABC$ , which is used in the logo for a company called *Deane Construction Limited (DCL)*. The triangle  $PQR$  is the image of  $ABC$  under an enlargement.



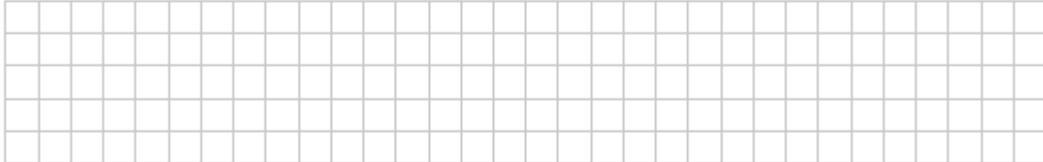
(a) (i) Construct the centre of enlargement and label it  $O$ .

(ii) Measure, in centimetres,  $|OB|$  and  $|OQ|$ .

$|OB| =$  \_\_\_\_\_

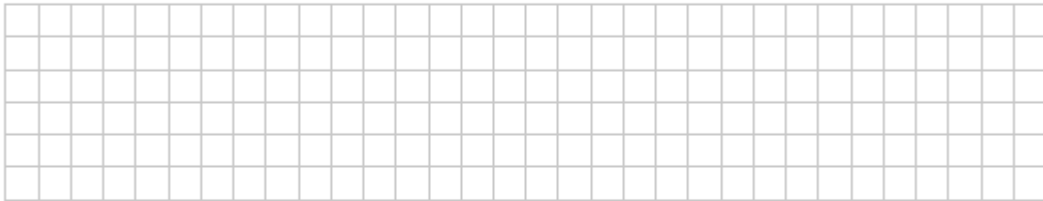
$|OQ| =$  \_\_\_\_\_

(iii) Use your measurements to find the scale factor of the enlargement, correct to one decimal place.

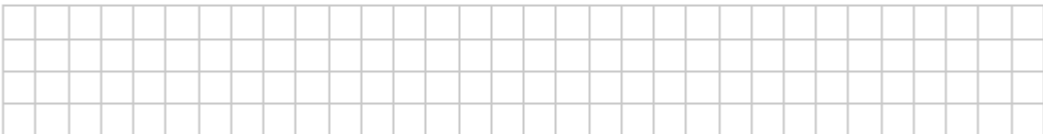


(b) The area of the triangle  $ABC$  is  $7.5 \text{ cm}^2$ .

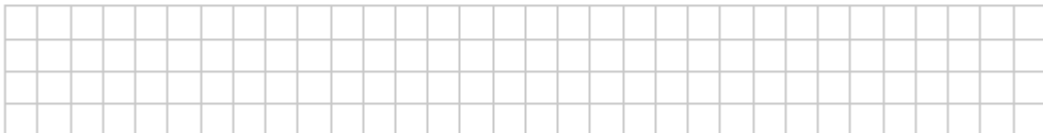
Use the scale factor to find the area of the image triangle  $PQR$  under the enlargement.



(c) (i) Given that  $|AB| = 5 \text{ cm}$ , use the scale factor to find  $|PQ|$ .



(ii) Given that  $|QR| = 8.7 \text{ cm}$ , use the scale factor to find  $|BC|$ .



(iii) Hence, show that  $|\angle ABC| = |\angle PQR|$ .

