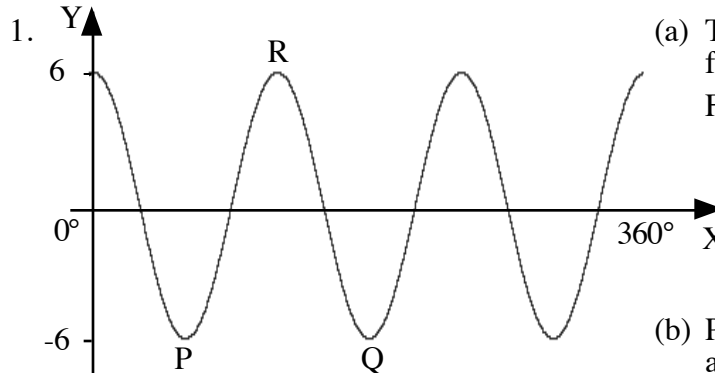


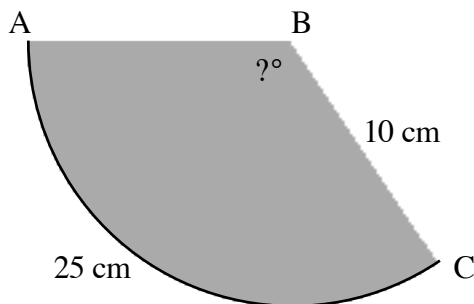
# HOME EXERCISE 15

Set out carefully all appropriate working.

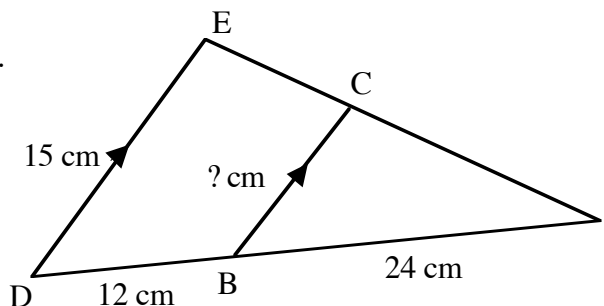
1.  (a) The graph shown is of the form  $y = a \cos bx$ . Find the values of  $a$  and  $b$ . (2)
- (b) Points P, Q, and R are maximum and minimum positions. State the co-ordinates of P, Q and R. (3)

$$ax^2 + bx + c = 0 \text{ has roots given by } x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}, a \neq 0$$

2. Solve for  $x$ , correct to 3 significant figures:  $2x^2 - 3x - 7 = 0$  (4)

3.  The diagram shows the sector of a circle radius 10 centimetres. Arc AC is 25 centimetres long. Calculate the size of angle ABC. (3)

4. Solve for  $x$ :  $\cos x = -0.4$  where  $0 \leq x < 360$  (3)

5.  In the diagram shown lines BC and DE are parallel. (a) Calculate the length of side BC. (3)
- (b) Triangle ADE has an area of  $135 \text{ cm}^2$ . Calculate the area of triangle ABC. (2)

**Total 20 marks**