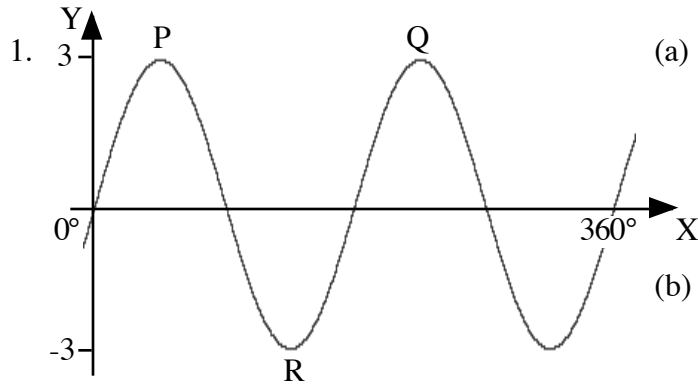


HOME EXERCISE 14

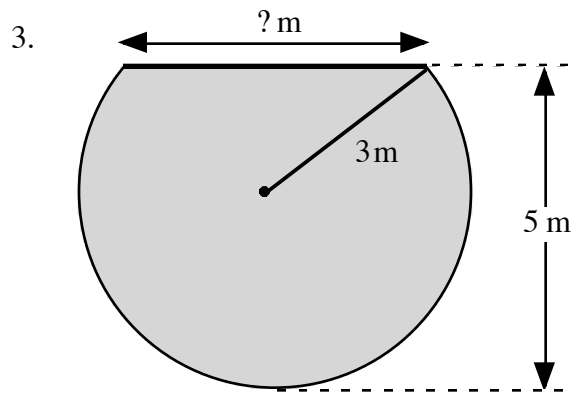
Set out carefully all appropriate working.



- (a) The graph shown is of the form $y = a \sin bx$.
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)

2. Solve for x , using factorisation: $x^2 + 5x - 14 = 0$ (3)



The diagram shows the new design for a large office table.

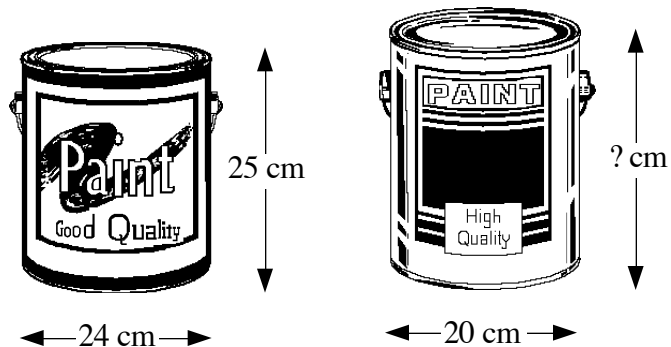
The table is formed from a circle, with a straight edge cut as a chord to the circle.

The radius of the circle is 3 metres and the straight edge is cut so that the table is 5 metres wide as shown.

Calculate the length of the straight edge. (4)

4. Solve for x : $5 \sin x - 3 = 0$ where $0 \leq x < 360$ (3)

5. A company produces paint in two different sizes of container.
Both containers are cylindrical and have exactly the same volume.
The dimensions of the containers are shown in the diagrams.
Diagrams are not to scale.



Calculate the missing height. (5)

Total 20 marks