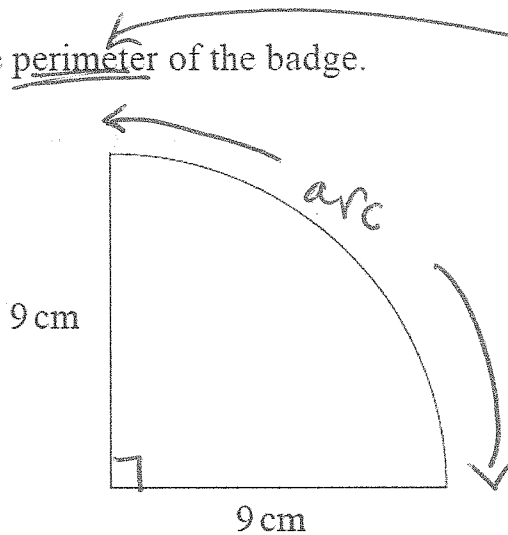


M4 = 35 days to go!

1 A badge is the shape of a quarter circle as shown below.

Calculate the perimeter of the badge.



around the outside

Think Circle Song!
diagram not drawn accurately

$$C = \pi d$$

$$C = \pi \times 18$$

$$C = 56.55$$

But \div by 4

$$\text{Arc} = 14.1$$

$$\text{Perimeter} = 9 + 9 + 14.1$$

$$= 32.1 \text{ cm}$$

11 PQR is a right-angled triangle.

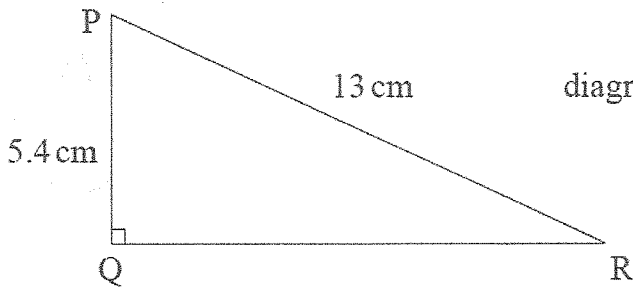


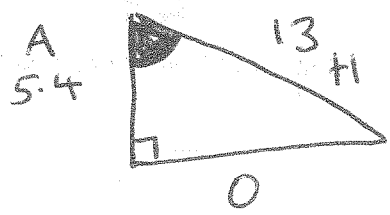
diagram not drawn accurately

Trigonometry
SOH CAHTA

By how many degrees is angle P bigger than angle R?

Give your answer to the nearest degree.

Show all your working clearly.

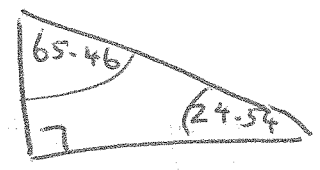


$$\cos ? = \frac{A}{H}$$

$$\cos ? = \frac{5.4}{13}$$

$$\cos ? = 0.415$$

$$? = 65.46^\circ$$



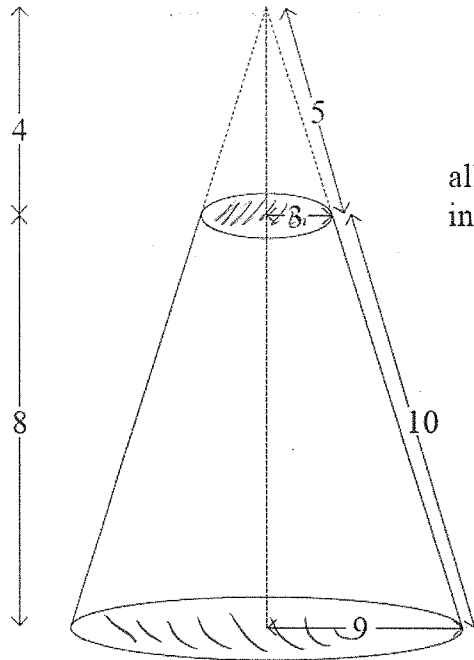
$$65.46 - 24.54$$

$$40.9$$

Ans 41

Formula Page!

- 18 The diagram represents the frustum of a solid cone formed when a small cone is removed from the top of a large cone.



all measurements in cm

Top circle
 $A = \pi r^2$
 $A = \pi \times 3^2$
 $A = 28.3 \text{ cm}^2$

Bottom Circle
 $A = \pi \times 9^2$
 $A = 81\pi$
 $A = 254.5 \text{ cm}^2$

Work out the total surface area of the frustum.

You must show all your working.

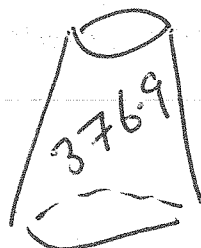
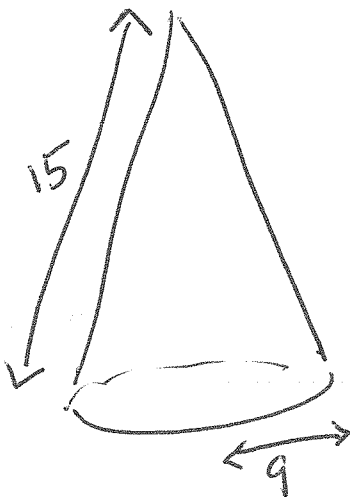
Big Cone

Surface = $\pi r l$
 $= \pi \times 9 \times 15$
 $= 424.1 \text{ cm}^2$

Small Cone



Area = $\pi \times 3 \times 5$
 47.1 cm^2



Surface
 $424.1 - 47.1$

Answer: 659.8 cm^2 [4]