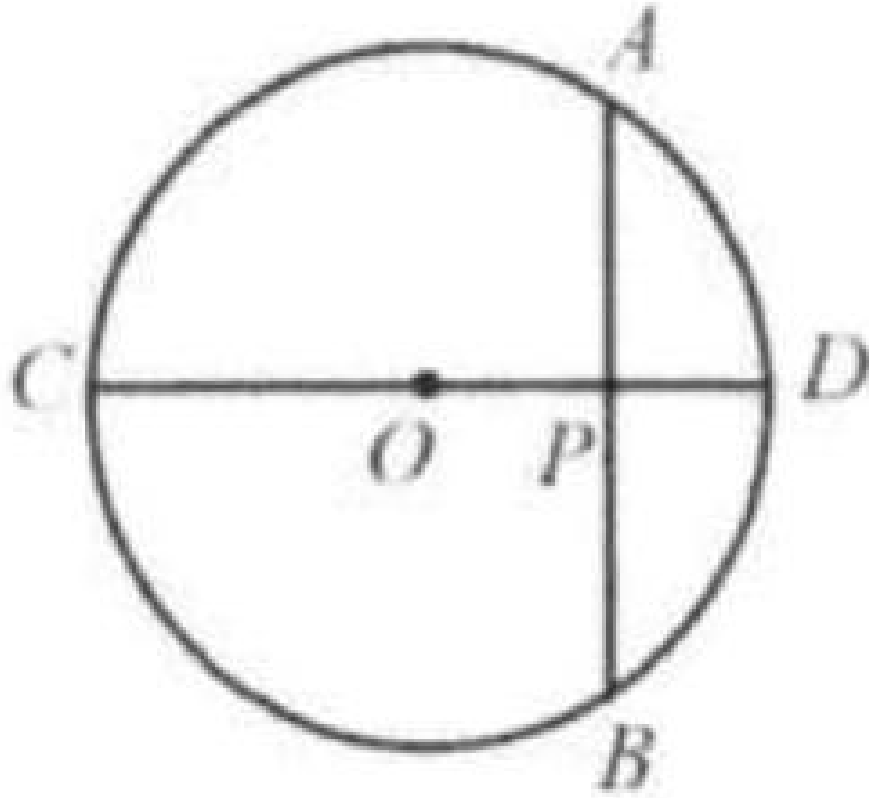


## Problem

$AB$  is the chord perpendicular to the diameter  $CD$ .  $O$  is the center. Find the length of  $OP$  if  $AP = 4$  cm and  $PD = 2$  cm.



## Solution

3 cm .

Connect  $AC$  and  $AD$ .

Since  $CD$  is the diameter,  $\angle CAD = 90^\circ$ .

$$AP^2 = CP \times PD \Rightarrow 4^2 = (2r - 2) \times 2 \Rightarrow r = 5.$$

$$OP = 5 - 2 = 3 \text{ cm.}$$

