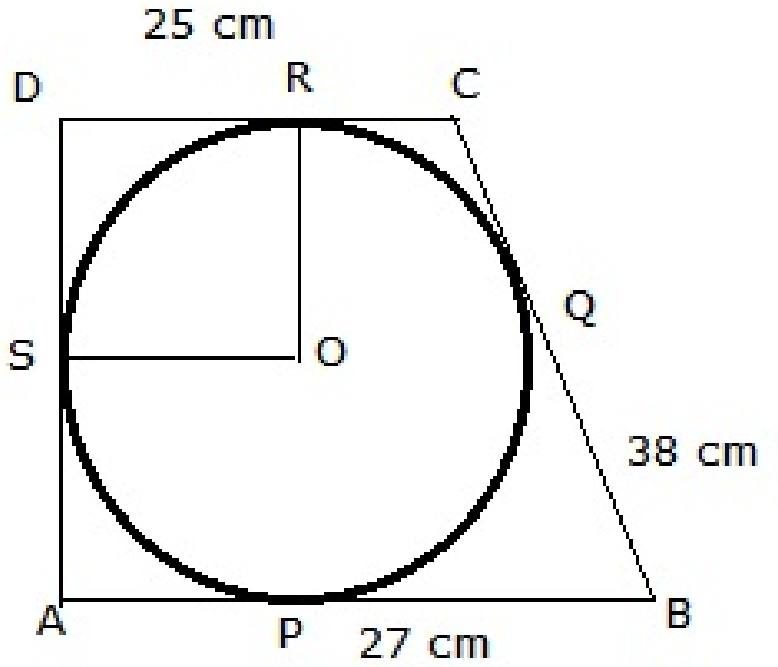
Exercise 12

Question 9:



Join OR and OS, then OR = OS
OR ⊥DR and OS⊥DS
∴ ORDS is a square
Tangents from an external point being equal, we have
BP = BQ
CQ = CR
DR = DS
∴ BQ = BP = 27 cm
⇒ BC - CQ = 27 cm
⇒ 38 - CQ = 27
⇒ CQ = 11 cm
⇒ CR = 11 cm
⇒ CD - DR = 11 cm
⇒ 25 - DR = 11 cm
⇒ DR = 14 cm
⇒ r = 14 cm
Hence, radius = 14 cm

********** END **********