



# MATHS

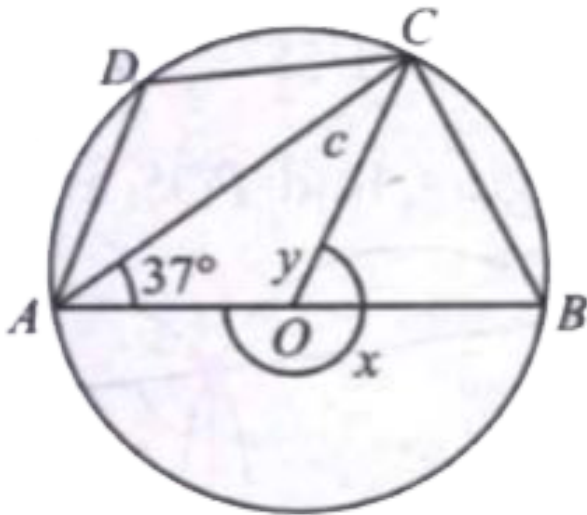
## BOOKS - CENGAGE

### CIRCLES AND CYCLIC QUADRILATERALS

#### Example

1. In the given figure,  $AOB$  is the diameter and

$\widehat{BAC} = 37^\circ$ . Find  $\widehat{ADC}$

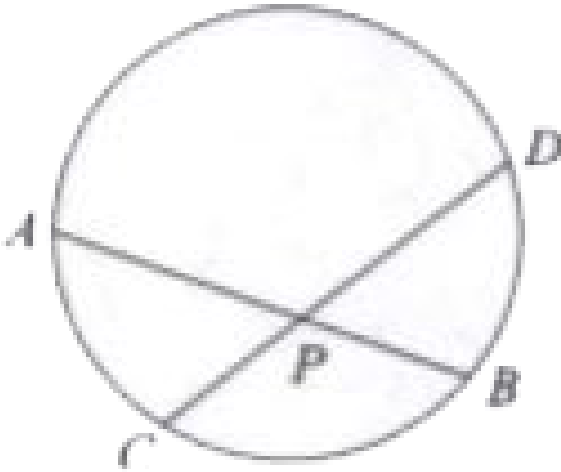


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## Test Yourself Multiple Choice Questions

1. Two chords  $AB$  and  $CD$  of a circle intersect each other at  $P$ . which of the following is

correct?



A.  $AP \times PB = CP \times PD$

B.  $AP + PB = CP \times PD$

C.  $AP - PB = CP - PD$

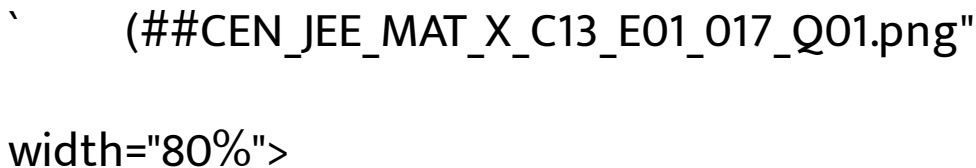
D.  $AP \times CP = BP \times PD$

**Answer: A**



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2. In the given figure, which of the following is correct ( O is the centre of circle)?



A.  $a = b$

B.  $3b = 2a$

C.  $2b = 3a$

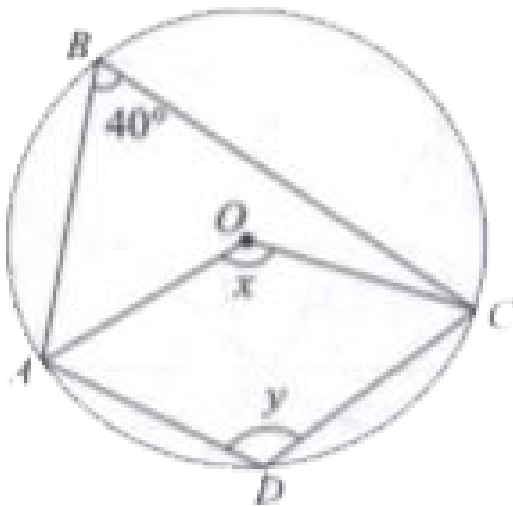
D. None of these

**Answer: B**



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3. In the given figures, value of  $y$  ( $O$  is the centre of the circle) is



A.  $100^\circ$

B.  $120^\circ$

C.  $130^\circ$

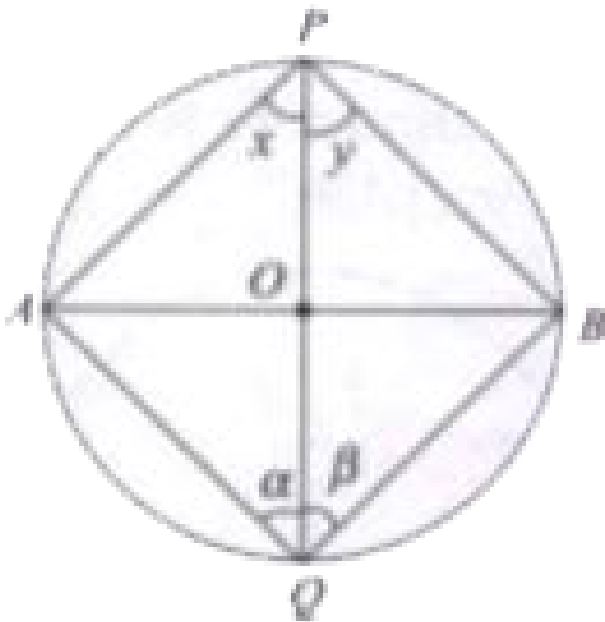
D.  $140^\circ$

**Answer: D**



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4. In the given figure , O is centre of the circle and  $AP = PB$  then  $\angle APBQ$  is



A. rectangle

B. kite

C. square

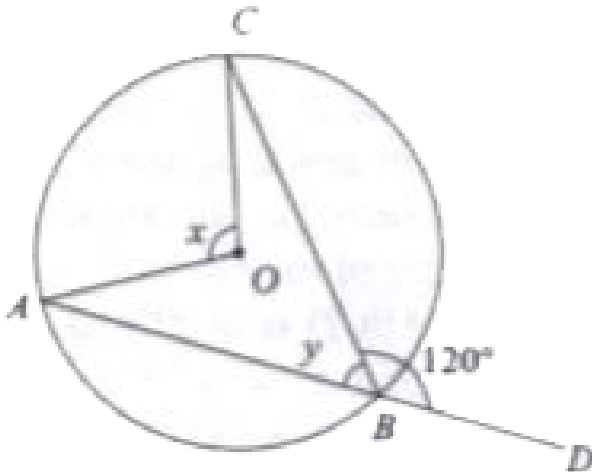
D. rhombus

**Answer: C**



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5. In the given figure, find the value of  $x$ , if it is given that  $O$  is the centre of circle.



A.  $120^\circ$

B.  $60^\circ$



C.  $100^\circ$

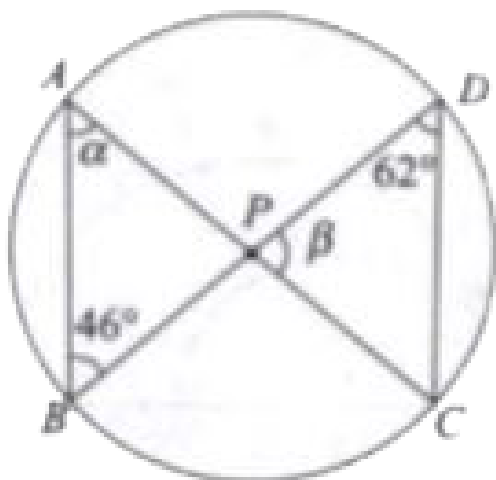
D.  $75^\circ$

**Answer: A**



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6. In the given figure , the value of  $\beta$  is



A.  $36^\circ$

B.  $72^\circ$

C.  $54^\circ$

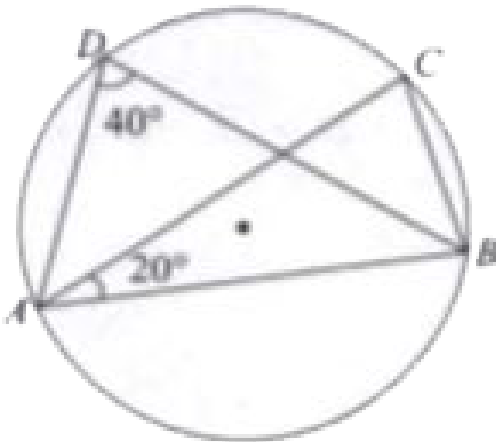
D.  $90^\circ$

**Answer: B**



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7. In the given figure, the value of  $\angle ABC$  is



A.  $60^\circ$

B.  $80^\circ$

C.  $100^\circ$

D.  $120^\circ$

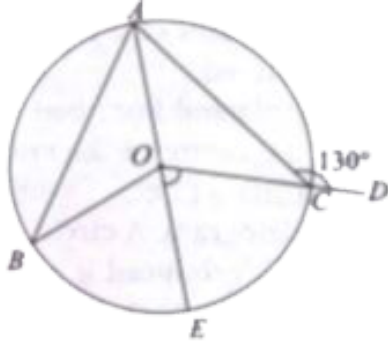
**Answer: D**



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**8.** In the figure,  $\angle ACD = 130^\circ$ . Then  $\angle COE$

=



A.  $80^\circ$

B.  $50^\circ$

C.  $70^\circ$

D.  $100^\circ$

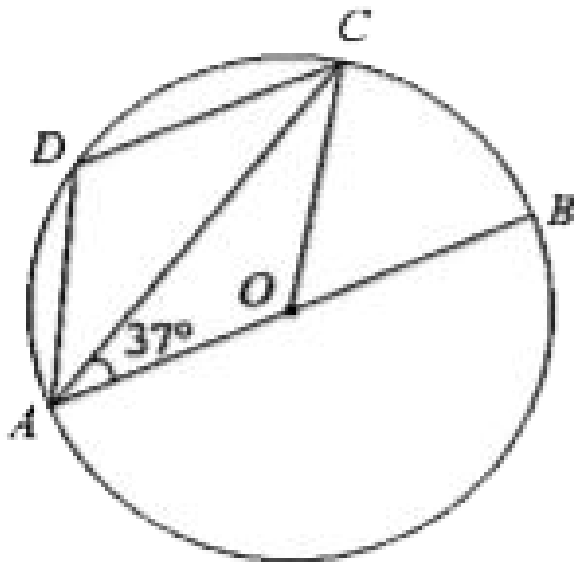
**Answer: D**



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9. If  $O$  is the centre of the circle then find

$\angle ADC$



A.  $125^\circ$

B.  $127^\circ$

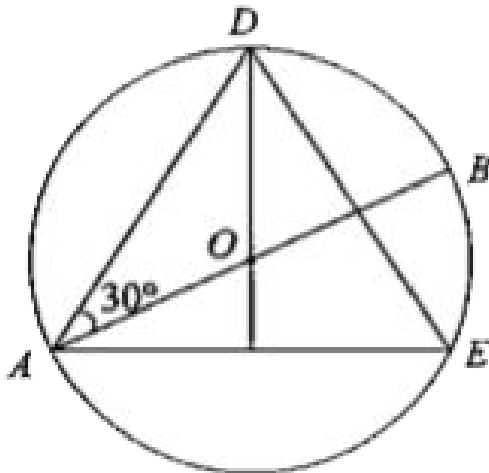
C.  $90^\circ$

D.  $137^\circ$

Answer: B

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10. In the given figure,  $O$  is the centre of the circle. Then  $\angle AED$  measure



A.  $30^\circ$

B.  $45^\circ$

C.  $60^\circ$

D.  $90^\circ$

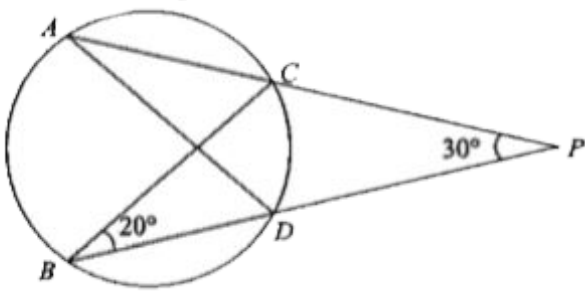
**Answer: C**



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**11.** In the given figure, the measure of  $\angle ADB$  is





A.  $30^\circ$

B.  $50^\circ$

C.  $80^\circ$

D.  $70^\circ$

**Answer: B**



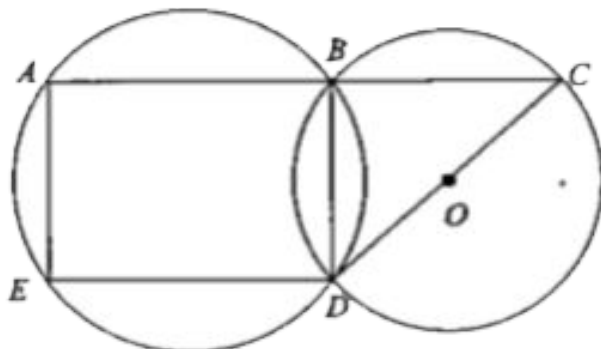
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13. What is the angle  $\angle AED$  if  $O$  is the centre of the circle?



A.  $90^\circ$

B.  $45^\circ$

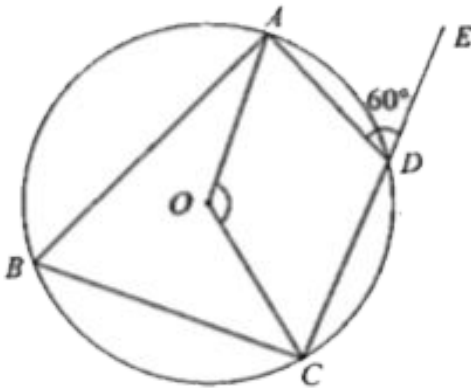
C.  $120^\circ$

D. None of these

Answer: A

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14. If  $O$  is the centre of circle and  $\angle ADE = 60^\circ$  then find  $\angle AOC$



A.  $60^\circ$

B.  $100^\circ$

C.  $120^\circ$

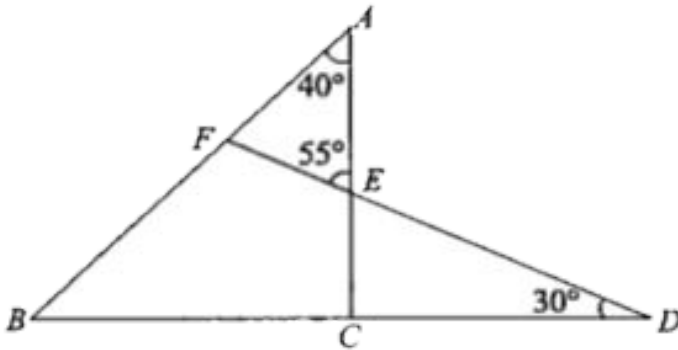
D. None of these

**Answer: C**



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15. In the given figures , BCEF is a



A. cyclic quadrilateral

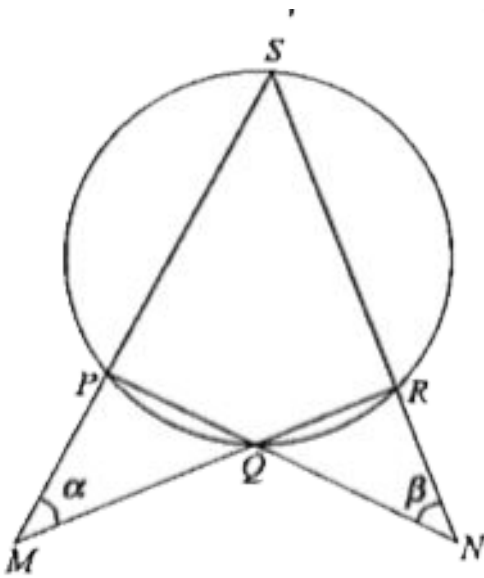
B. rhombus

C. rectangle

D. None

**Answer: A**

16. If  $\angle RQN = 50^\circ$   $\alpha = 3\beta$  then the value of  $\beta$  is



A.  $40^\circ$

B.  $20^\circ$

C.  $60^\circ$

D.  $80^\circ$

**Answer: B**



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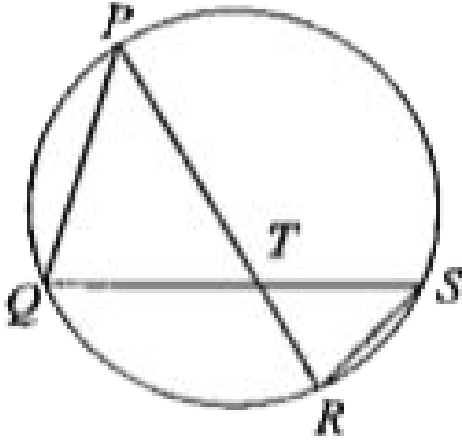
## Olympiad And Ntse Level Exercises

1. In the figures

$$\angle PQT = p, \angle TSR = q, \text{ and } \angle PTQ = 60^\circ$$



Then  $p+q$  equals



A.  $300^\circ$

B.  $30^\circ$

C.  $120^\circ$

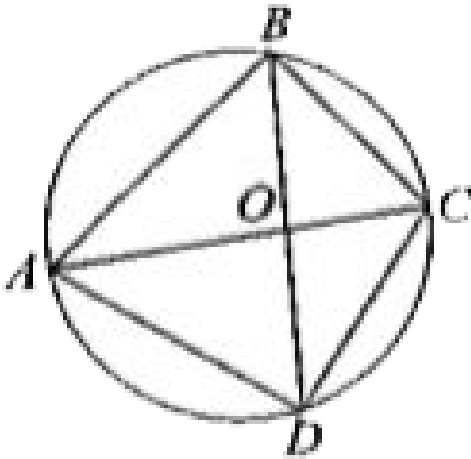
D.  $60^\circ$

**Answer: C**



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2. If  $AC$  and  $BD$  are two chords of a circle that bisect each other then quadrilateral  $ABCD$  is a



A. rectangle

B. square

C. trapezium

D. parallelogram

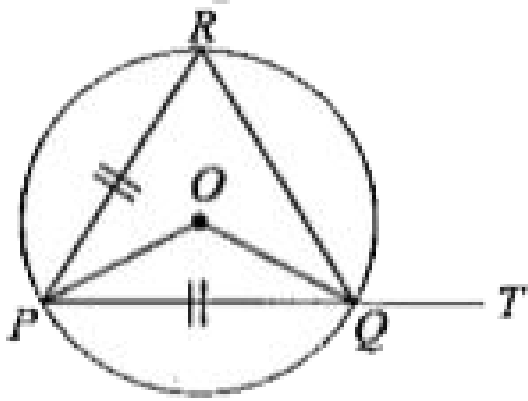
**Answer: A**



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3. In the figure ,  $PQ = PR$  ,  $O$  is the centre ,

$\angle RQT = 110^\circ$  . Then  $\angle OPQ$  equals



A.  $70^\circ$

B.  $140^\circ$

C.  $40^\circ$

D.  $20^\circ$

**Answer: D**



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4. If an equilateral triangle  $ABC$  is inscribed in a circle with centre  $O$  then the measure of  $\angle AOB$  is

A.  $60^\circ$

B.  $90^\circ$

C.  $120^\circ$

D.  $180^\circ$

**Answer: C**



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5. One angle of a cyclic quadrilateral is twice its opposite angle. Then , the smaller of the two angles is

A.  $30^\circ$

B.  $45^\circ$

C.  $60^\circ$

D. None of these

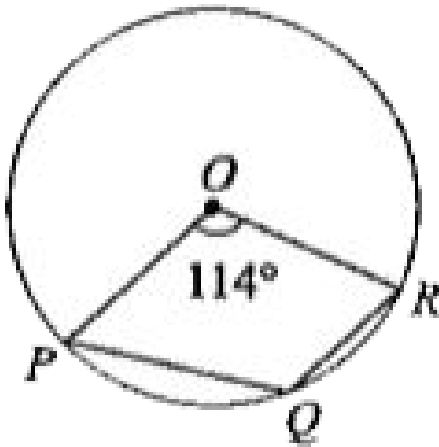
**Answer: C**



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6. In the figure,  $O$  is the centre of the circle .

$\angle PQR$  is equal to



A.  $57^\circ$

B.  $63^\circ$

C.  $123^\circ$

D.  $92^\circ$

**Answer: C**

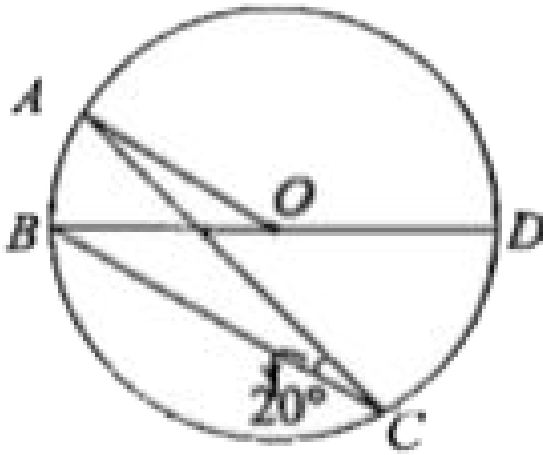


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7. In the figure ,  $O$  is the centre and

$\angle ACB = 20^\circ$   $\angle AOD$  is equal to





A.  $140^\circ$

B.  $160^\circ$

C.  $120^\circ$

D.  $130^\circ$

**Answer: A**



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8. A kite with sides  $x$  cm,  $x$  cm,  $y$  cm and  $y$  cm is inscribed in a circle. The area of the kite is

A.  $xy\text{cm}^2$

B.  $\frac{1}{2}xy\text{cm}^2$

C.  $2xy\text{cm}^2$

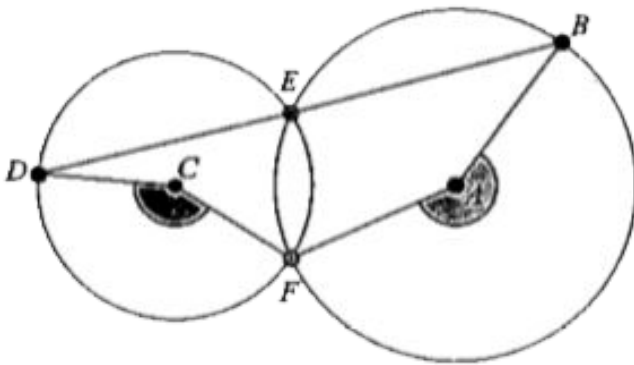
D.  $x^2y^2\text{cm}$

**Answer: A**



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9. In the figure, A and C are the centres of the circles. DEB is a straight line. If reflex angle  $BAF = 208^\circ$  then obtuse angle  $DCF =$



A.  $152^\circ$

B.  $176^\circ$

C.  $120^\circ$

D.  $150^\circ$

**Answer: A**



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**10.** Two concentric circles have their radii as  $a$  and  $b$  ( $a > b$ ).  $PQ$  is the diameter of the larger circle. From  $Q$ , a tangent is drawn to smaller circle which touches it at  $R$ . length of  $PR$  is

A.  $\sqrt{b^2 + a^2}$

B.  $\sqrt{3b^2 + a^2}$

C.  $\sqrt{a^2 - b^2}$

D.  $\sqrt{a^2 - b^2}$

**Answer: D**



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