CDS 2 2024

LIVE

MATHS

REVISION

CLASS 12

NAVJYOTI SIR

SSBCrack EXAMS

22 August 2024 Live Classes Schedule

8:00AM	22 AUGUST 2024 DAILY CURRENT AFFAIRS	RUBY MA'AM
9:00AM	22 AUGUST 2024 DAILY DEFENCE UPDATES	DIVYANSHU SIR

SSB INTERVIEW LIVE CLASSES

9:00AM	MOCK PERSONAL INTERVIEWS	ANURADHA MA'AM

NDA 2 2024 LIVE CLASSES

11:00AM	GK - CURRENT AFFAIRS REVISION - CLASS 1	RUBY MA'AM
1:00PM	MATHS REVISION - CLASS 12	NAVJYOTI SIR
2:00PM	CHEMISTRY REVISION - CLASS 5	SHIVANGI MA'AM
5:30PM	ENGLISH - REVISION - CLASS 6	ANURADHA MA'AM

CDS 2 2024 LIVE CLASSES

11:00AM	GK - CURRENT AFFAIRS REVISION - CLASS 1	RUBY MA'AM
2:00PM	CHEMISTRY REVISION - CLASS 5	SHIVANGI MA'AM
3:00PM	MATHS REVISION - CLASS 12	NAVJYOTI SIR
5:30PM	ENGLISH - REVISION - CLASS 6	ANURADHA MA'AM

REVISION TOPICS :

- Trigonometry
- Geometry

Q) If $\sec x \operatorname{cosec} x = 2$, then what is $\tan^n x + \cot^n x$ equal to?

(a) 2
(b) 2^{n+1}
(c) 2n
(d) 2^{n-1}

$\left(\frac{1}{\cos x}\right)\left(\frac{1}{\sin x}\right) = 2$

$\cos x \sin x = \frac{1}{2}$ | $\cos x = \frac{1}{\sqrt{2}}$, $\sin x = \frac{1}{\sqrt{2}}$

$\Rightarrow x = 45^\circ$

$\tan^n 45^\circ + \cot^n 45^\circ$

$1^n + 1^n$

$= 1 + 1 = 2$

Q) If $\sec x \operatorname{cosec} x = 2$, then what is $\tan^n x + \cot^n x$ equal to?

(a) 2
(b) 2^{n+1}
(c) 2n
(d) 2^{n-1}

Ans: (a)

Q) What is $\dfrac{\cos^4 A - \sin^4 A}{\cos^2 A - \sin^2 A}$ equal to ?

$$\frac{(\cos^2 A)^2 - (\sin^2 A)^2}{\cos^2 A - \sin^2 A}$$

(a) $\cos^2 A - \sin^2 A$ (b) $\cos A - \sin A$

(c) 1 (d) 2

$$\frac{(\cos^2 A + \sin^2 A)(\cos^2 A - \sin^2 A)}{(\cos^2 A - \sin^2 A)} = 1$$

Q) What is $\frac{\cos^4 A - \sin^4 A}{\cos^2 A - \sin^2 A}$ equal to ?

(a) $\cos^2 A - \sin^2 A$ (b) $\cos A - \sin A$

(c) 1 (d) 2

Ans: (c)

Q) If $7\sin^2 x + 3\cos^2 x = 4$, $0 < x < 90°$, then what is the value of $\tan x$?

(a) $\sqrt{2}$ (b) 1

(c) $\frac{\sqrt{3}}{2}$ (d) $\frac{1}{\sqrt{3}}$

$7\sin^2 x + 3(1 - \sin^2 x) = 4$

$4\sin^2 x = 1$

$\sin^2 x = \frac{1}{4}$

$\sin x = \frac{1}{2}$ (For $0 < x < 90°$, $\sin x$ is +ve, so $\sin x = -1/2$ is rejected)

$x = 30°$

$\tan x = \tan 30° = \frac{1}{\sqrt{3}}$

Q) If $7\sin^2 x + 3\cos^2 x = 4, 0 < x < 90°$, then what is the value of $\tan x$?

(a) $\sqrt{2}$

(b) 1

(c) $\frac{\sqrt{3}}{2}$

(d) $\frac{1}{\sqrt{3}}$

Ans: (d)

Q) If $\sin x + \sin^2 x = 1$, then what is the value of $\cos^8 x + 2\cos^6 x + \cos^4 x$?

(a) 0 (b) 1

(c) 2 (d) 4

$\sin x = 1 - \sin^2 x$

$\sin x = \cos^2 x$

$\cos^8 x + 2\cos^6 x + \cos^4 x$

$(\cos^2 x)^4 + 2(\cos^2 x)^3 + (\cos^2 x)^2$

$\sin^4 x + 2\sin^3 x + \sin^2 x$

$\sin^4 x + \sin^3 x + \sin^3 x + \sin^2 x$

$\sin^2 x(\sin^2 x + \sin x) + \sin x(\sin^2 x + \sin x)$

$= (\sin^2 x + \sin x)(\sin^2 x + \sin x)$

$= 1 \times 1 = 1$

Q) If $\sin x + \sin^2 x = 1$, then what is the value of $\cos^8 x + 2\cos^6 x + \cos^4 x$?

(a) 0 (b) 1

(c) 2 (d) 4

Ans: (b)

Q) What is the value of
$\text{cosec}^2 68° + \sec^2 56° - \cot^2 34° - \tan^2 22°$?

(a) 0 (b) $\frac{1}{2}$

(c) 1 (d) 2

$(1 + \cot^2 68°) + (1 + \tan^2 56°) - \cot^2(90° - 56°) - \tan^2(90° - 68°)$

$- \tan^2 56° - \cot^2 68°$

$= 1 + 1 = 2$

Q) What is the value of
$\text{cosec}^2 68° + \sec^2 56° - \cot^2 34° - \tan^2 22°$?

(a) 0

(b) $\frac{1}{2}$

(c) 1

(d) 2

Ans: (d)

Q) If $\tan\theta + \cot\theta = \frac{4}{\sqrt{3}}$, where $0<\theta<\frac{\pi}{2}$, then $\sin\theta + \cos\theta$ is equal to

(a) 1

(b) $\frac{\sqrt{3}-1}{2}$

(c) $\frac{\sqrt{3}+1}{2}$

(d) $\sqrt{2}$

$\frac{1}{\sqrt{3}} + \sqrt{3} = \frac{4}{\sqrt{3}}$

$\tan\theta$ $\cot\theta$

$\theta = 30^\circ$

$\sin 30^\circ + \cos 30^\circ$

$\frac{1}{2} + \frac{\sqrt{3}}{2} = \frac{1+\sqrt{3}}{2}$

Q) If $\tan\theta + \cot\theta = \frac{4}{\sqrt{3}}$, where $0<\theta<\frac{\pi}{2}$, then $\sin\theta + \cos\theta$ is equal to

(a) 1

(b) $\frac{\sqrt{3}-1}{2}$

(c) $\frac{\sqrt{3}+1}{2}$

(d) $\sqrt{2}$

Ans: (c)

Q) What is $\sin^4\theta - \cos^4\theta$ equal to for any real number θ?

(a) 1
(b) $1 - 2\sin^2\theta$
(c) $2\cos^2\theta + 1$
(d) $1 - 2\cos^2\theta$

$\sin^2\theta - \cos^2\theta$

$(1 - \cos^2\theta) - \cos^2\theta$

$1 - 2\cos^2\theta$

Q) What is $\sin^4\theta - \cos^4\theta$ equal to for any real number θ?

(a) 1
(b) $1 - 2\sin^2\theta$
(c) $2\cos^2\theta + 1$
(d) $1 - 2\cos^2\theta$

Ans: (d)

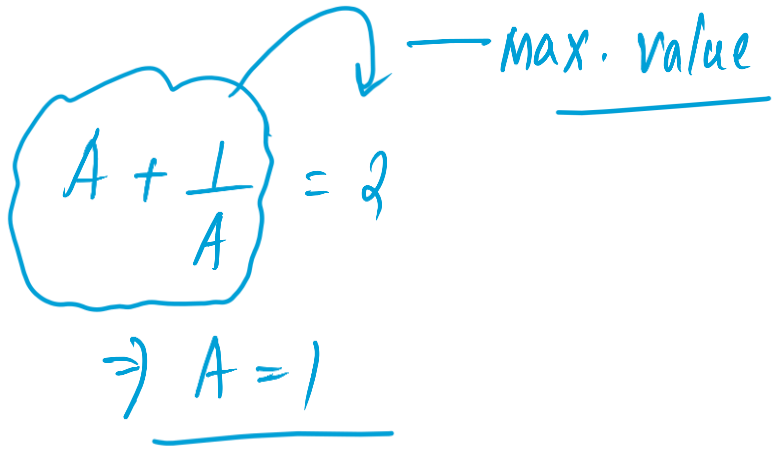
Q) If $\tan^2 x + \dfrac{1}{\tan^2 x} = 2$ and $0° < x < 90°$, then what is the value of x ?

(a) 15° (b) 30°

(c) 45° (d) 60°

$\tan^2 x = 1$

$x = 45°$



Q) If $\tan^2 x + \frac{1}{\tan^2 x} = 2$ and $0° < x < 90°$, then what is the value of x ?

(a) 15°
(b) 30°
(c) 45°
(d) 60°

Ans: (c)

Q) If $p = \sqrt{\dfrac{1-\sin x}{1+\sin x}}, q = \dfrac{1-\sin x}{\cos x}, r = \dfrac{\cos x}{1+\sin x}$

then which of the following is/are correct ?

1. $p = q = r$
2. $p^2 = qr$

Select the correct answer using the code given below.

(a) 1 only (b) 2 only

(c) Both 1 and 2 (d) Neither 1 nor 2

$$p = \sqrt{\frac{1-\sin^2 x}{(1+\sin x)^2}} = \frac{\cos x}{1+\sin x} \times \frac{1-\sin x}{1-\sin x} = \frac{\cos x\,(1-\sin x)}{\cos^2 x} = \frac{1-\sin x}{\cos x} = q$$

Q) If $p = \sqrt{\frac{1-\sin x}{1+\sin x}}, q = \frac{1-\sin x}{\cos x}, r = \frac{\cos x}{1+\sin x}$

then which of the following is/are correct ?

1. $p = q = r$
2. $p^2 = qr$

Select the correct answer using the code given below.

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Ans: (c)

Q) If $\sin x + \cos x = p$ and $\sin^3 x + \cos^3 x = q$, then what is $p^3 - 3p$ equal to ?

(a) 0 (b) $-2q$

(c) $2q$ (d) $4q$

$p^3 = \sin^3 x + \cos^3 x + 3\sin x \cos x (\sin x + \cos x)$

$p^3 = q + 3\sin x \cos x \ (p)$

$p^3 = q + \frac{3(p^2-1)}{2} \times p$

$-q = \frac{3}{2}p^3 - p^3 - \frac{3p}{2}$

$-2q = p^3 - 3p$

$(\sin x + \cos x)^2 = 1 + 2\sin x \cos x$

$p^2 = 1 + 2\sin x \cos x$

$\frac{p^2-1}{2} = \sin x \cos x$

(OR)

$$p^3 = (\sin x + \cos x)^3$$

$$p^3 - 3p = \sin^3 x + \cos^3 x + 3\sin^2 x \cos x + 3\sin x \cos^2 x - 3\sin x - 3\cos x$$

$$= q + 3\cos x(\sin^2 x - 1) + 3\sin x(\cos^2 x - 1)$$

$$= q - 3\cos x(\cos^2 x) - 3\sin x \sin^2 x$$

$$= q - 3(\sin^3 x + \cos^3 x)$$

$$= q - 3q = -2q$$

Q) If $\sin x + \cos x = p$ and $\sin^3 x + \cos^3 x = q$, then what is $p^3 - 3p$ equal to ?

(a) 0
(b) $-2q$
(c) $2q$
(d) $4q$

Ans: (b)

Q) What is $(\text{cosec } x - \sin x)(\sec x - \cos x)(\tan x + \cot x)$ equal to ?

(a) $\sin x + \cos x$ (b) $\sin x - \cos x$

(c) 2 (d) 1

Q) What is $(\text{cosec } x - \sin x)(\sec x - \cos x)(\tan x + \cot x)$ equal to ?

(a) $\sin x + \cos x$ (b) $\sin x - \cos x$

(c) 2 (d) 1

Ans: (d)

Q) If $\sec\theta + \tan\theta = 2$, then what is the value of $\sec\theta$?

(a) $\frac{3}{2}$

(b) $\sqrt{2}$

(c) $\frac{5}{2}$

(d) $\frac{5}{4}$

Q) If $\sec\theta + \tan\theta = 2$, then what is the value of $\sec\theta$?

(a) $\frac{3}{2}$

(b) $\sqrt{2}$

(c) $\frac{5}{2}$

(d) $\frac{5}{4}$

Ans: (d)

Q) What is $\dfrac{(\sin\theta+\cos\theta)(\tan\theta+\cot\theta)}{\sec\theta+\operatorname{cosec}\theta}$ equal to?

(a) 1
(b) 2
(c) $\sin\theta$
(d) $\cos\theta$

Q) What is $\dfrac{(\sin\theta+\cos\theta)(\tan\theta+\cot\theta)}{\sec\theta+\operatorname{cosec}\theta}$ equal to?

(a) 1
(b) 2
(c) $\sin\theta$
(d) $\cos\theta$

Ans: (a)

Q) If $a^2 = \dfrac{1+2\sin\theta\cos\theta}{1-2\sin\theta\cos\theta}$, then what is the value of $\dfrac{a+1}{a-1}$?

(a) sec θ
(b) 1
(c) 0
(d) tan θ

Q) If $a^2 = \dfrac{1+2\sin\theta\cos\theta}{1-2\sin\theta\cos\theta}$, then what is the value of $\dfrac{a+1}{a-1}$?

(a) sec θ
(b) 1
(c) 0
(d) tan θ

Ans: (d)

Q) If $3 \sin x + 5 \cos x = 5$, then what is the value of $(3 \cos x - 5 \sin x)$?

(a) 0
(b) 2
(c) 3
(d) 5

Q) If $3 \sin x + 5 \cos x = 5$, then what is the value of $(3 \cos x - 5 \sin x)$?

(a) 0
(b) 2
(c) 3
(d) 5

Ans: (c)

Q) The value of

$$\frac{\cot 5^\circ.\cot 10^\circ.\cot 15^\circ.\cot 60^\circ.\cot 75^\circ.\cot 80^\circ.\cot 85^\circ}{(\cos^2 20^\circ + \cos^2 70^\circ) + 2}$$ is

(a) $\frac{9}{\sqrt{3}}$ (b) $\frac{1}{9}$ (c) $\frac{1}{\sqrt{3}}$ (d) $\frac{\sqrt{3}}{9}$

Q) The value of

$$\frac{\cot 5^\circ.\cot 10^\circ.\cot 15^\circ.\cot 60^\circ.\cot 75^\circ.\cot 80^\circ.\cot 85^\circ}{(\cos^2 20^\circ + \cos^2 70^\circ) + 2}$$ is

(a) $\frac{9}{\sqrt{3}}$ (b) $\frac{1}{9}$ (c) $\frac{1}{\sqrt{3}}$ (d) $\frac{\sqrt{3}}{9}$

Ans: (d)

Q) If $\sin 17^\circ = \frac{x}{y}$, then $\sec 17^\circ - \sin 73^\circ$ is equal to

(a) $\frac{y}{\sqrt{y^2 - x^2}}$

(b) $\frac{y^2}{\left(x\sqrt{y^2 - x^2}\right)}$

(c) $\frac{x}{\left(y\sqrt{y^2 - x^2}\right)}$

(d) $\frac{x^2}{\left(y\sqrt{y^2 - x^2}\right)}$

Q) If $\sin 17^\circ = \frac{x}{y}$, then $\sec 17^\circ - \sin 73^\circ$ is equal to

(a) $\frac{y}{\sqrt{y^2 - x^2}}$

(b) $\frac{y^2}{\left(x\sqrt{y^2 - x^2}\right)}$

(c) $\frac{x}{\left(y\sqrt{y^2 - x^2}\right)}$

(d) $\frac{x^2}{\left(y\sqrt{y^2 - x^2}\right)}$

Ans: (d)

Q) If $0° < \theta < 90°$, then all the trigonometric ratios can be obtained when

(a) only $\sin\theta$ is given

(b) only $\cos\theta$ is given

(c) only $\tan\theta$ is given

(d) any one of the six ratios is given

Q) If $0° < \theta < 90°$, then all the trigonometric ratios can be obtained when

(a) only $\sin\theta$ is given

(b) only $\cos\theta$ is given

(c) only $\tan\theta$ is given

(d) any one of the six ratios is given

Ans: (d)

Q) If $\cos x + \sec x = 2$, then what $\cos^n x + \sec^n x$ equal to, where n is a positive integer?

(a) 2
(b) 2^{n-2}
(c) 2^{n-1}
(d) 2^n

Q) If $\cos x + \sec x = 2$, then what $\cos^n x + \sec^n x$ equal to, where n is a positive integer?

(a) 2
(b) 2^{n-2}
(c) 2^{n-1}
(d) 2^n

Ans: (a)

Q) If $\frac{3-\tan^2 A}{1-3\tan^2 A} = K$

where K is a real number, then cosec A$(3\sin A - 4\sin^3 A)$ is equal to

(a) $\frac{2K}{K-1}$

(b) $\frac{2K}{K-1}$, where $\frac{1}{3} \le K \le 3$

(c) $\frac{2K}{K-1}$, where $K < \frac{1}{3}$ or $K > 3$

(d) $\frac{2K}{K+1}$

Q) If $\frac{3-\tan^2 A}{1-3\tan^2 A}=K$

where K is a real number, then cosec A$(3\sin A-4\sin^3 A)$ is equal to

(a) $\frac{2K}{K-1}$

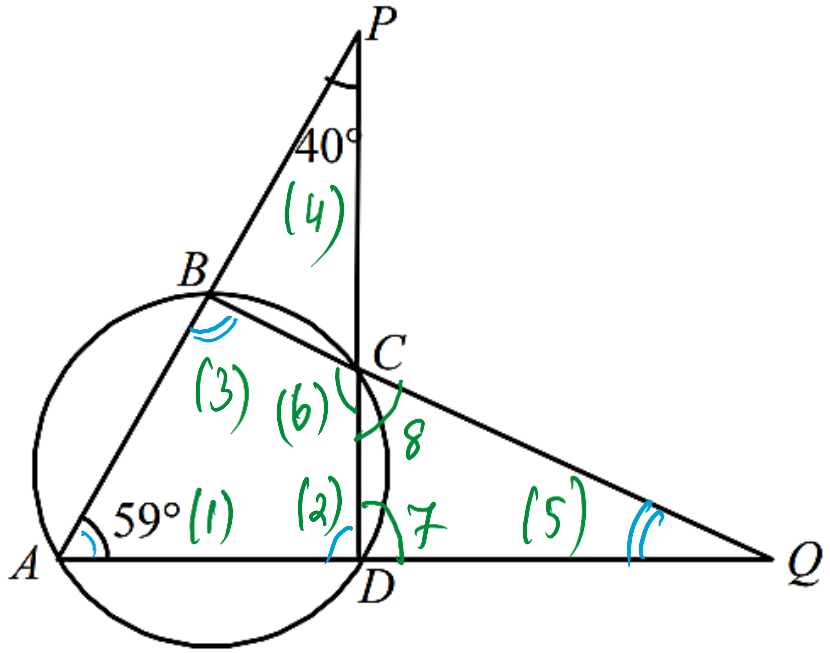
(b) $\frac{2K}{K-1}$, where $\frac{1}{3}\le K\le 3$

(c) $\frac{2K}{K-1}$, where $K<\frac{1}{3}$ or $K>3$

(d) $\frac{2K}{K+1}$

Ans: (c)

Q)



In the given figure, if $\angle PAQ = 59°$, $\angle APD = 40°$, then what is $\angle AQB$?

(a) 19° (b) 20°
(c) 22° (d) 27°

(∠2)

(1) $\triangle APD$, $\angle CDA = 180° - (40° + 59°)$

$\angle ABC = 180° - \angle CDA$ (cyclic quadrilateral)

$\triangle ABQ$,

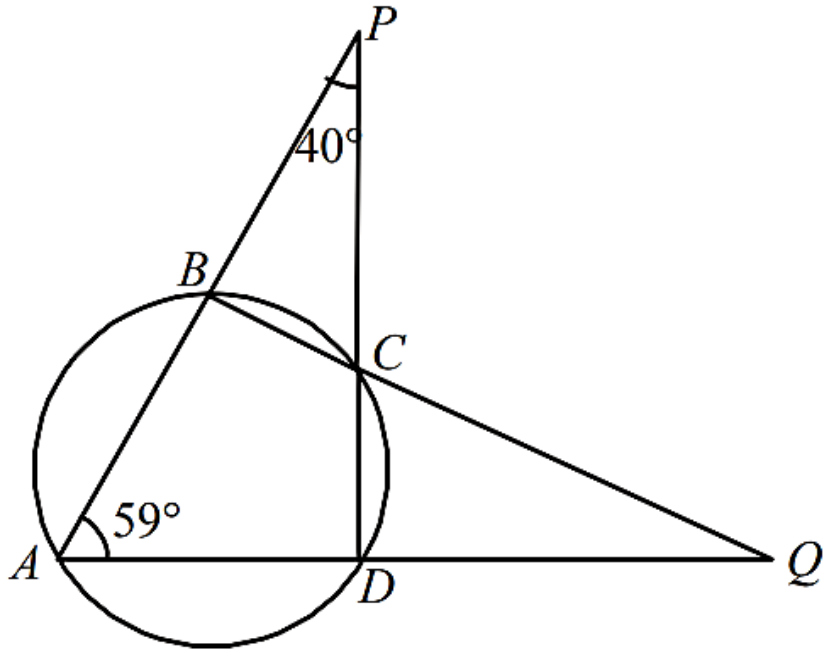
$\angle AQB = 180° - (\angle BAD + \angle ABC)$

(2) $\angle 6 = 180° - \angle 1 = 180° - 59°$

$\angle 2 = 180° - (40° + 59°) =$

$\angle 5 = \angle 2 - \angle 8$

Q)

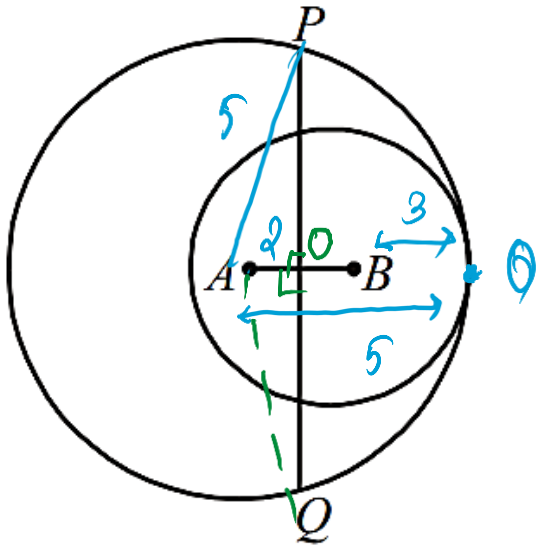


In the given figure, if $\angle PAQ = 59°$, $\angle APD = 40°$, then what is $\angle AQB$?

(a) 19°
(b) 20°
(c) 22°
(d) 27°

Ans: (c)

Q)



Two circles with centres A and B touch each other internally, as shown in the figure given above. Their radii are 5 and 3 units, respectively. Perpendicular bisector of AB meets the bigger circle in P and Q. What is the length of PQ?

(a) $2\sqrt{6}$ (b) $\sqrt{34}$

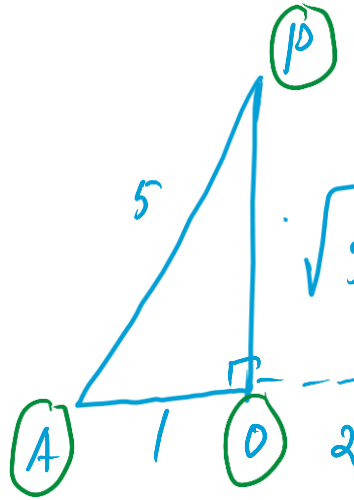
(c) $4\sqrt{6}$ (d) $6\sqrt{2}$

$AQ = 5$

$BQ = 3$

$AB = AQ - BQ = 2$

$AO = 1$



$\sqrt{5^2 - 1^2} = \sqrt{24}$

$= 2\sqrt{6}$

$OP = 2\sqrt{6}$

$PQ = 2(OP)$

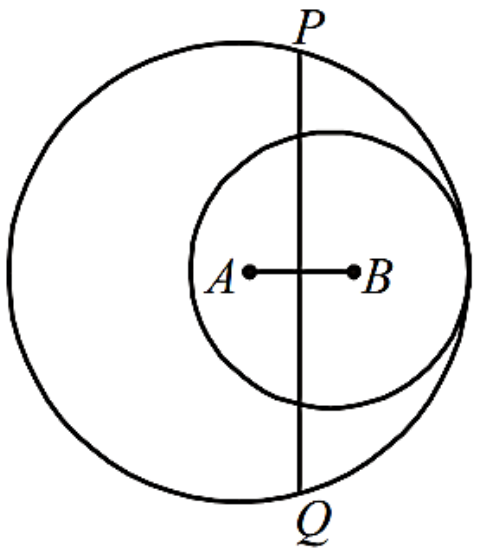
$= 2 \times 2\sqrt{6}$

$= 4\sqrt{6}$

$\triangle APO \cong \triangle AQO$ (by RHS Congruence)

$OP = OQ$

Q)



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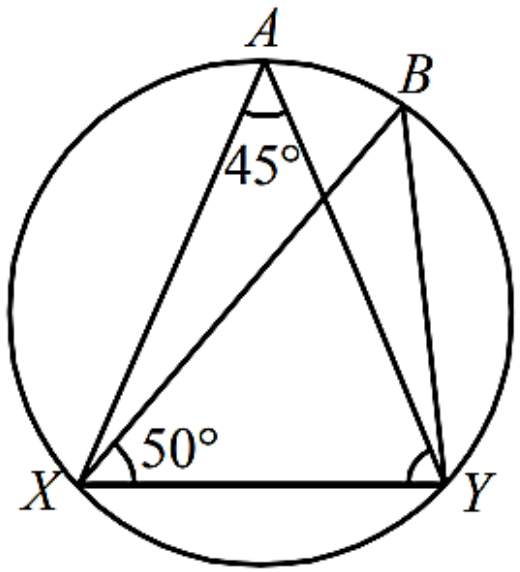
(a) $2\sqrt{6}$ (b) $\sqrt{34}$

(c) $4\sqrt{6}$ (d) $6\sqrt{2}$

Ans: (c)

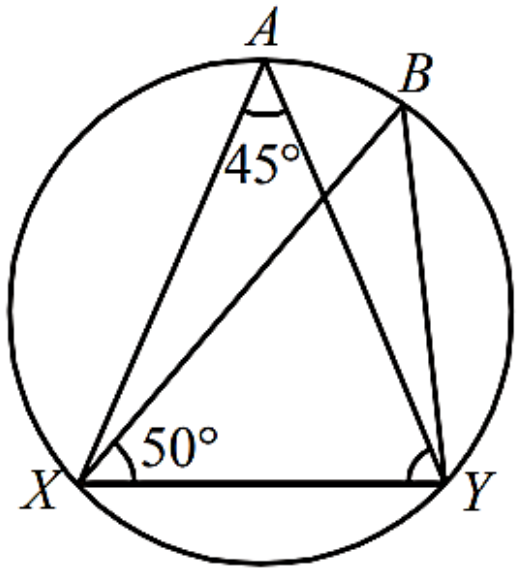
Q)



In the figure given above, what is $\angle BYX$ equal to?

(a) 85°
(b) 50°
(c) 45°
(d) 90°

Q)

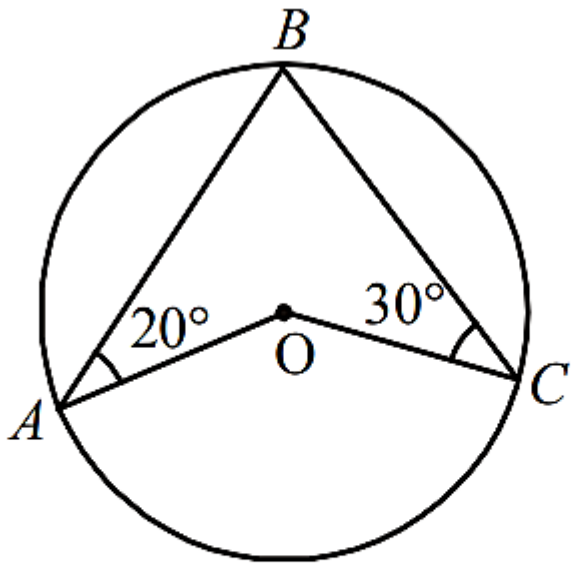


In the figure given above, what is $\angle BYX$ equal to?

(a) 85°
(b) 50°
(c) 45°
(d) 90°

Ans: (a)

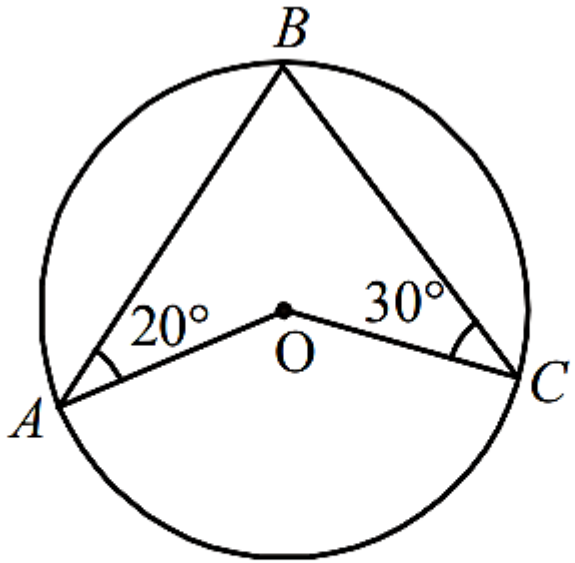
Q)



In the figure given above, O is the centre of the circle.
What is $\angle AOC$?

(a) 160°
(b) 150°
(c) 120°
(d) 100°

Q)

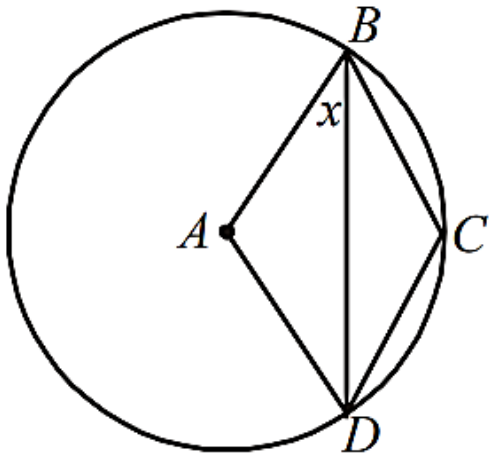


In the figure given above, O is the centre of the circle.
What is $\angle AOC$?

(a) 160°
(b) 150°
(c) 120°
(d) 100°

Ans: (d)

Q)



In the figure given above, A is the centre of the circle and $AB = BC = CD$. What is the value of x?

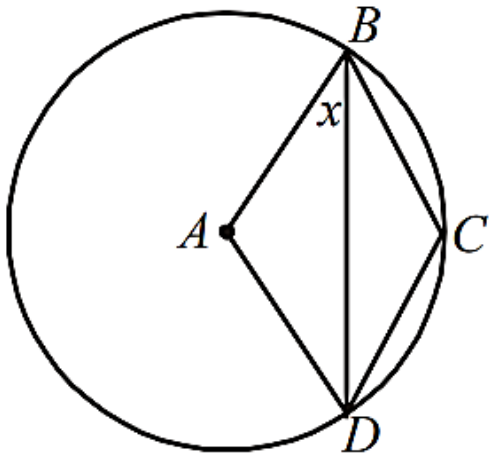
(a) $20°$

(b) $22\frac{1}{2}°$

(c) $25°$

(d) None of these

Q)



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(a) $20°$

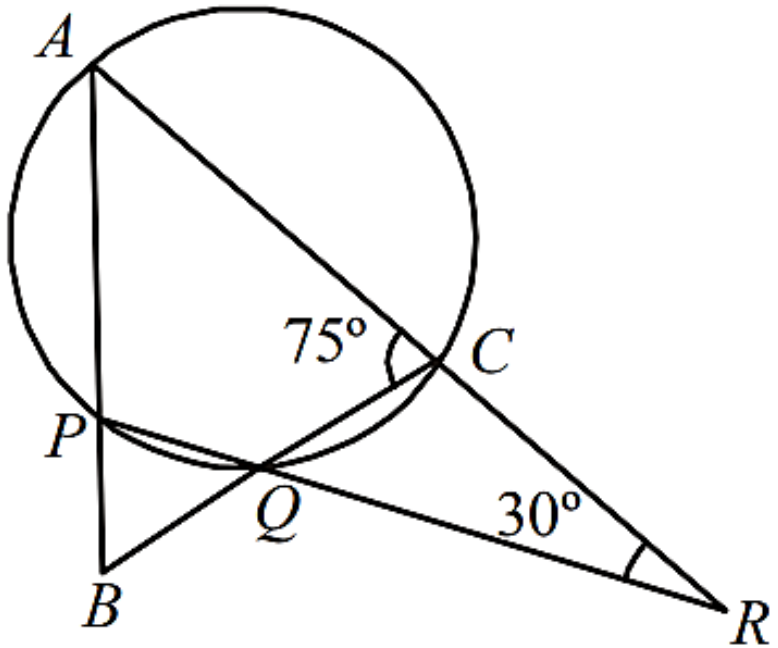
(b) $22\frac{1}{2}°$

(c) $25°$

(d) None of these

Ans: (d)

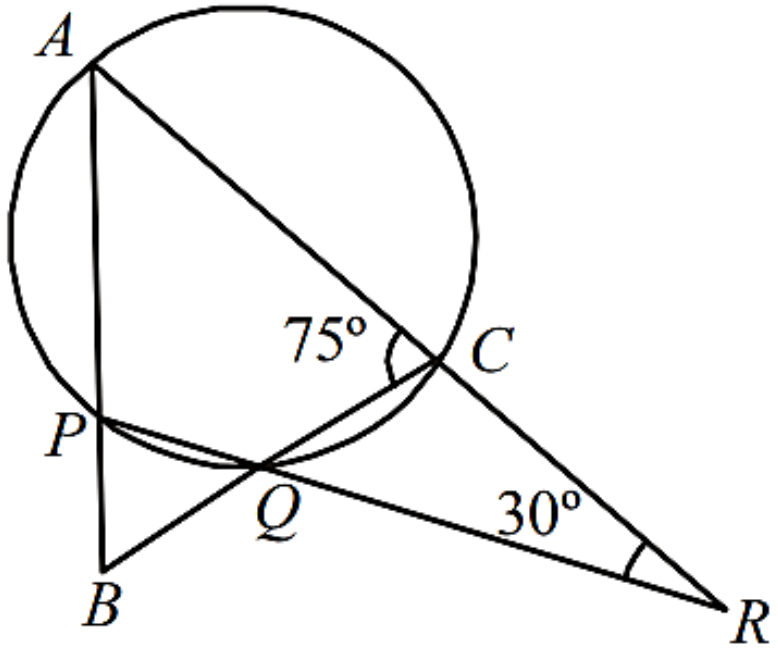
Q)



In the figure given above, what is $\angle CBA$?

(a) 30°
(b) 45°
(c) 50°
(d) 60°

Q)



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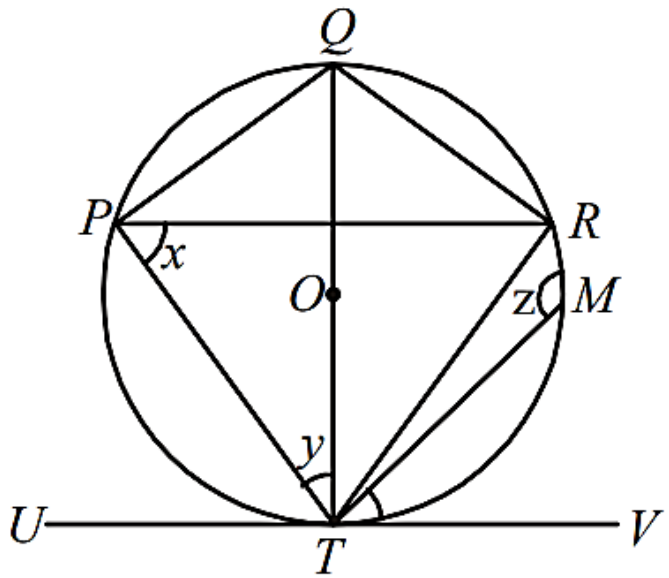
(a) 30° (b) 45°

(c) 50° (d) 60°

Ans: (d)

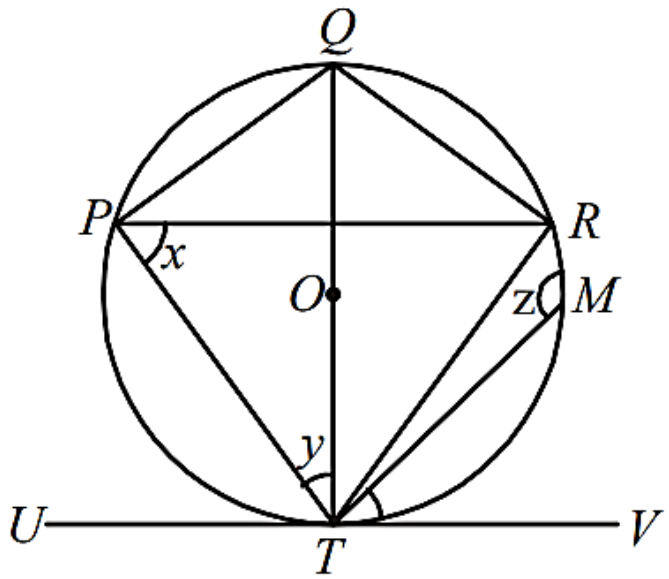
Q)



In the figure given above, O is the centre of the circle. The line UTV is a tangent to the circle at T, $\angle VTR = 52°$ and ΔPTR is an isosceles triangle such that $TP = TR$. What is $\angle x + \angle y + \angle z$ equal to?

(a) 175° (b) 208°
(c) 218° (d) 250°

Q)



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(a) 175° (b) 208°
(c) 218° (d) 250°

Ans: (c)

Q) A circle of radius 10 cm has an equilateral triangle inscribed in it. The length of the perpendicular drawn from the centre to any side of the triangle is

(a) $2.5\sqrt{3}$ cm

(b) $5\sqrt{3}$ cm

(c) $10\sqrt{3}$ cm

(d) None of these

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(b) $5\sqrt{3}$ cm

(c) $10\sqrt{3}$ cm

(d) None of these

Ans: (d)

Q) AC is the diameter of the circumcircle of the cyclic quadrilateral $ABCD$. If $\angle BDC = 42°$, then what is $\angle ACB$ equal to?

(a) $42°$ (b) $45°$

(c) $48°$ (d) $58°$

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Ans: (c)

Q) A tangent is drawn from an external point D to a circle of radius 3 units at P such that DP = 4 units. If O is the centre of the circle, the the sine of the angle ODP is

(a) 4/5 (b) 3/4

(c) 3/5 (d) 1/2

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Ans: (c)

Q) ABC is an equilateral triangle. The side BC is trisected at D such that $BC = 3\ BD$. What is the ratio of AD^2 to AB^2?

(a) 7 : 9 (b) 1 : 3 (c) 5 : 7 (d) 1 : 2

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Ans: (a)

Q) Out of two concentric circles, the diameter of the outer circle is 26 cm and the chord MN of length 24cm is tangent to the inner circle. The radius of the inner circle is

(a) 5 cm
(b) 6 cm
(c) 8 cm
(d) 10 cm

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(b) 6 cm
(c) 8 cm
(d) 10 cm

Ans: (a)

Q) Two circles, each of radius r, with centres P and Q, are such that each circle passes through the centre of the other circle. Then the area common to the circles is less than one-third of the sum of the areas of the two circles by

(a) $\frac{\sqrt{3}r^2}{4}$

(b) $\frac{\sqrt{3}r^2}{3}$

(c) $\frac{\sqrt{3}r^2}{2}$

(d) $\sqrt{3}r^2$

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(c) $\frac{\sqrt{3}r^2}{2}$

(d) $\sqrt{3}r^2$

Ans: (c)

Q) In a ΔABC, $AB = BC = CA$. The ratio of the radius of the circumcircle to that of the incircle is

(a) 2 : 1
(b) 3 : 1
(c) 3 : 2
(d) None of these

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(c) 3 : 2
(d) None of these

Ans: (a)

Q)An equilateral triangle BOC is drawn inside a square ABCD.
If angle AOD= 2θ, what is tanθ equal to ?

(a) $2-\sqrt{3}$

(b) $1+\sqrt{2}$

(c) $4-\sqrt{3}$

(d) $2+\sqrt{3}$

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If angle AOD= 2θ, what is tanθ equal to ?

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(c) $4-\sqrt{3}$

(d) $2+\sqrt{3}$

Ans: (d)

Q) Suppose ABC is a triangle with AB of unit length D and E are the points lying on AB and AC respectively such that BC and DE are parallel. If the area of triangle ABC is twice the area of triangle ADE, then the length of AD is

(a) $\frac{1}{2}$ unit

(b) $\frac{1}{3}$ unit

(c) $\frac{1}{\sqrt{2}}$ unit

(d) $\frac{1}{\sqrt{3}}$ unit

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(c) $\frac{1}{\sqrt{2}}$ unit

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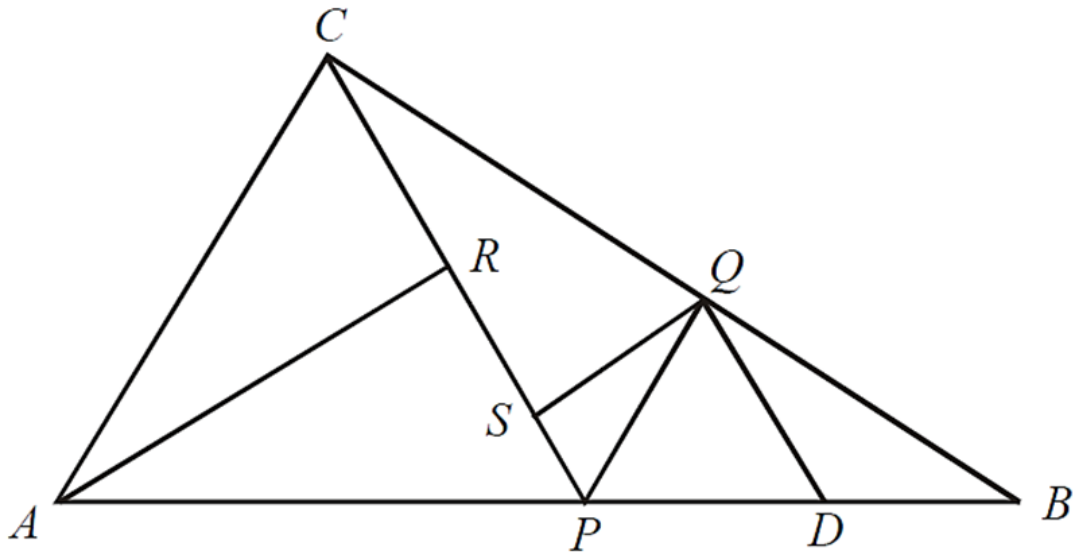
Ans: (c)

Q) In the figure (not drawn to scale) given below, P is a point on AB such that $AP : PB = 4 : 3$. PQ is parallel to AC and QD is parallel to CP. In ΔARC, $\angle ARC = 90°$, and in ΔPQS, $\angle PSQ = 90°$. The length of QS is 6 cms. What is ratio $AP : PD$?



(a) 10 : 3
(b) 2 : 1
(c) 7 : 3
(d) 8 : 3

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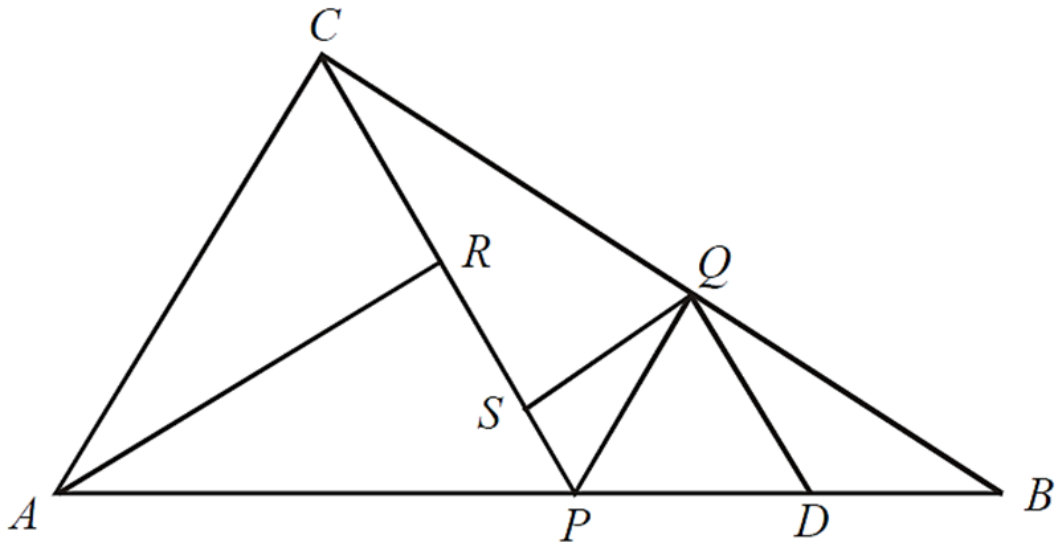

(a) 10 : 3
(b) 2 : 1
(c) 7 : 3
(d) 8 : 3

Ans: (c)

Q) Let S be an arbitrary point on the side PQ of an a cute angle ΔPQR. Let T be the point of intersection of QR extended with the straight line PT drawn parallel to SR through P. Let U be the point of intersection of PR extended with the straight line QU drawn parallel to SR through Q. If $PT = a$ and $QU = b$, then the length of SR is

(a) $\frac{a+b}{ab}$

(b) $\frac{a-b}{ab}$

(c) $\frac{ab}{a+b}$

(d) $\frac{ab}{a-b}$

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(c) $\frac{ab}{a+b}$

(d) $\frac{ab}{a-b}$

Ans: (c)

Q)In a right angled $\Delta ABC, \angle C = 90^\circ$ and CD is perpendicular to AB. If $AB \times CD = CA \times CB$, then $\frac{1}{CD^2}$ is equal to

(a) $\frac{1}{AB^2} - \frac{1}{CA^2}$

(b) $\frac{1}{AB^2} - \frac{1}{CB^2}$

(c) $\frac{1}{BC^2} + \frac{1}{CA^2}$

(d) $\frac{1}{BC^2} - \frac{1}{CA^2}$, if $CA > CB$

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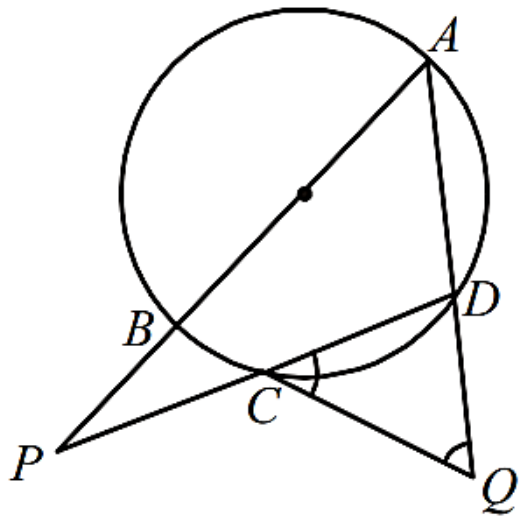
(d) $\frac{1}{BC^2} - \frac{1}{CA^2}$, if $CA > CB$

Ans: (c)

Q) In the given figure, if $\frac{x}{3}=\frac{y}{4}=\frac{z}{5}$, where $\angle DCQ = x$, $\angle BPC = y$ and $\angle DQC = z$, then what are the values of x, y and z, respectively?



(a) 33°, 44° and 55°
(b) 36°, 48° and 60°
(c) 39°, 52° and 65°
(d) 42°, 56° and 70°

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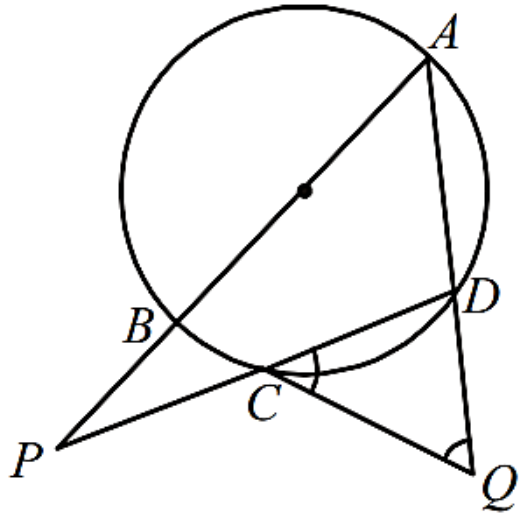

(a) 33°, 44° and 55°
(b) 36°, 48° and 60°
(c) 39°, 52° and 65°
(d) 42°, 56° and 70°

Ans: (b)

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LIVE

MATHS

REVISION

CLASS 13

NAVJYOTI SIR

SSBCrack EXAMS

REVISION TOPICS : (23/08/24)

- Geometry
- Statistics