



ST. JOSEPH'S COLLEGE, PRAYAGRAJ

SECOND UNIT TEST 2024

MATHEMATICS

CLASS - IX

TIME: 1 Hour

MM: 30

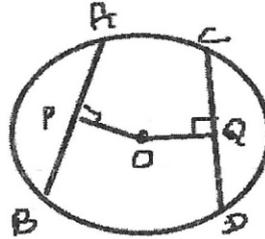
SECTION A

Q 1) Choose the correct answers to the questions from the given options.

[6]

(Do not copy the questions, write the correct answer only)

- The solution of the simultaneous equations $\frac{x}{2} - \frac{y}{3} = 0$ and $\frac{3x}{2} + \frac{2y}{3} + 10 = 0$ is
 - $x = 4, y = 6$
 - $x = 4, y = -6$
 - $x = -4, y = 6$
 - $x = -4, y = -6$
- A chord of length 40cm is drawn at a distance of 15cm from centre of a circle, then radius of circle will be
 - 12cm
 - 15cm
 - 17cm
 - 25cm
- If $x \tan 30^\circ = \cos 60^\circ$, then x is equal to
 - 2
 - $\frac{2\sqrt{3}}{3}$
 - $\frac{\sqrt{3}}{2}$
 - $\frac{1}{2}$
- The value of $\sin \theta \cos(90 - \theta) + \cos \theta \sin(90 - \theta) =$
 - 0
 - 1
 - 2
 - $\frac{3}{2}$
- In the figure, O is the centre of the circle and $OP = OQ$ and $CD = 6$ cm. The length of AB is



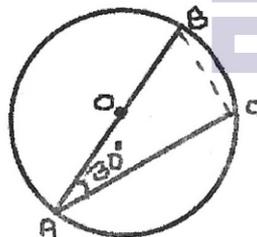
- 6cm
 - 12cm
 - 3cm
 - 5cm
- The solution of $\sqrt{5}x - \sqrt{7}y = 0$ and $\sqrt{3}y + \sqrt{13}x = 0$ is
 - $x = 0, y = 0$
 - $x = 0, y = 1$
 - $x = 1, y = 0$
 - $x = 1, y = -1$

SECTION B

Q 2)

[12]

- Solve the following pair of linear equations by substitution method
 $5x + 4y = 4, x - 12y = 20$
- AB and CD are two parallel chords of length 8cm and 6cm respectively. If they are 1cm apart and lie on the same side of the centre of the circle, find the radius of the circle.
- In ΔABC , $\angle B = 90^\circ$, $AB = 5$ units and $AC = 13$ units. Find cosec C.
- Evaluate: $\tan 5^\circ \tan 35^\circ \tan 60^\circ \tan 55^\circ \tan 85^\circ$
- Solve the following system of linear equations by elimination method
 $4x - 3y = 8$ and $18x - 3y - 29 = 0$
- In the given figure, diameter $AB = 16$ cm. Find the length of the chord AC if AB and AC are inclined at an angle of 30° .





SECTION C

Q 3)

1) Solve the following linear equations by the method of cross multiplication.

$$8x - 3y = 12; 5x = 2y + 7$$

2) PQR is an isosceles triangle inscribed in a circle. If $PQ = PR = 25\text{cm}$ and $QR = 14\text{cm}$. Calculate the radius of the circle to the nearest cm.

3) Evaluate:

$$\frac{3 \sin 3A + 2 \cos(2A+5)}{2 \cos 3A - \sin(2A-10)}, \text{ when } A = 20^\circ$$

4) Solve the following pair of linear equations.

$$23x - 29y = 98 \text{ and } 29x - 23y = 110$$

[12]

**“Your first
experience
with
programming
shapes how
you see it
forever”**

A right teacher can make coding fun, clear, and exciting.

Others can make it confusing and frustrating.

That's why we focus on making sure beginners get the right guidance from the start so they don't lose interest, they gain confidence.

Online videos are a great start but they usually skip the harder parts of programming logic in each topic.

Why? Because difficult concepts can lead to negative comments and fewer views. But real learning happens when those tricky topics are explained clearly and patiently.

That's what we focus on teaching what matters, not just what's easy to teach.

Learn your first programming language only at



I want to join



Location on map

8-D, Kutchery Road
Ph: 9415368884

EXPERTS'
INSTITUTE