

Little Flower Convent High School, Solapur

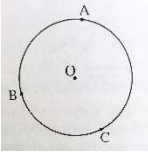
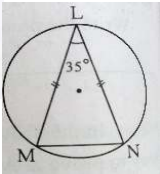
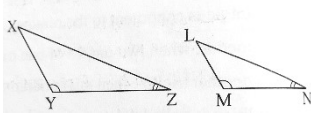
STD	EXAM	SUBJECT	Date	Marks
X	Second Prelims	Maths-II	24-2-2022	50

Q.I] Choose the correct answers for the following and write the letter of the alphabet of it: [10 M]

- $\triangle ABC \sim \triangle DEF$, then $\frac{AB}{DE} = \frac{\quad}{EF}$
A) AC B) DF C) BC D) None of these
- Out of the following which is the Pythagorean triplet?
A) (1,5,10) B) (3,4,5) C) (2,2,2) D) (5,5,2)
- Two circles of radii 5.5 cm and 3.3 cm touch each other externally. What is the distance between their centres?
A) 4.4 cm B) 8.8 cm C) 2.2cm D) None of these
- If $\triangle ABC \sim \triangle PQR$ and $\frac{AB}{PQ} = \frac{7}{5}$, then _____
A) $\triangle ABC$ is bigger B) $\triangle PQR$ is bigger C) Both triangles will be equal D) Cannot be decided
- Distance of point (-3,4) from the origin is _____
A) 7 B) 1 C) 5 D) -5
- $\sin \theta \times \operatorname{cosec} \theta = ?$
A) 1 B) 0 C) $\frac{1}{2}$ D) $\sqrt{2}$
- Which of the following is not the test of similarity?
A) AAA test B) SAS test C) SAA test D) SSS test
- Out of the following point _____ lies to the right of the origin on X axis.
A) (-2,0) B) (0,2) C) (2,3) D) (2,0)
- Sides of two similar triangles are in the ratio 3:5. Areas of these triangles are in the ratio.
A) 25:9 B) 3:5 C) 9:25 D) 5:3
- $1 - \cos^2 \theta$ is equal to _____
A) $\sin^2 \theta$ B) $\tan^2 \theta$ C) $1 - \sin^2 \theta$ D) $\sec^2 \theta$

QIII] Solve the following sub questions(each carry one mark):-

(11)

1. In a circle with centre C, line AB is a tangent at point A. What is the measure of $\angle CAB$?
2. $\sin \theta = \frac{12}{37}$, $\cos \theta = \frac{35}{37}$ find the value of $\tan \theta$.
3. In a right angled triangle, if sum of the squares of the sides making right angle is 169 then what is the length of the hypotenuse?
4. The areas of two similar triangles are 9cm^2 and 16cm^2 . Find the ratio of their corresponding heights?
5. A,B,C are any points on the circle with centre O. Write the names of any two arcs formed due to these points. 
6. Write the value of $\cos 90^\circ$?
7. $\square PQRS$ is cyclic, $m\angle PSR = 110^\circ$. Find measure $\angle PQR$.
8. In figure, chord $LM \cong$ chord LN , $m\angle L = 35^\circ$ find $m(\text{arc } MN)$. 
9. Write the reciprocal of $\tan \theta$?
10. In $\triangle XYZ$, $\angle Y = 100^\circ$, $\angle Z = 30^\circ$. In $\triangle LMN$, $\angle M = 100^\circ$, $\angle N = 30^\circ$.
By which test two triangles are similar? 
11. Find the length of the diagonal of a rectangle whose length is 9cm and breadth is 12cm.

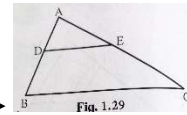
QIII] Solve the following sub-questions (each carry two marks):-

(20)

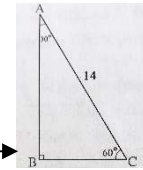
1. Base of a triangle is 9 and height is 5. Base of another triangle is 10 and height is 6. Find the ratio of areas of these triangles.

2. Find the **X** co-ordinate of point P, if P is the midpoint of a line segment AB with A (-4, 2) and B(6,2).

3. In $\triangle ABC$, DE is parallel to BC. If DB= 5.4cm , AD= 1.8cm, EC= 7.2cm then find AE.

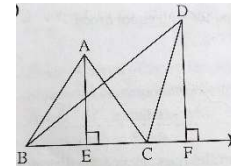


4. In adjoining figure $\triangle ABC$, $\angle A=30^\circ$, AC= 14, find BC.



5. Find the side of a square whose diagonal is 10 cm.

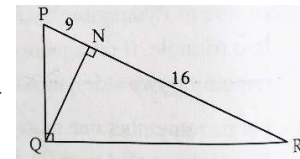
6. In adjoining figure $AE \perp$ seg BC, seg DF \perp line BC, AE=4 , DF= 6.



Then, find $\frac{A(\triangle ABC)}{A(\triangle DBC)}$

7. In a right angled triangle, sides making right angle are 9cm and 12 cm. Find the length of the hypotenuse.

8. In figure, $\angle PQR = 90^\circ$, seg QN \perp seg PR, PN=9, NR=16. Find QN.



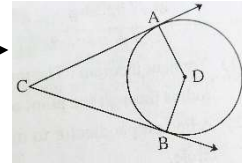
9. In $\triangle LMN$, l= 5, m= 13, n= 12. State whether $\triangle LMN$ is a right angled triangle or not.

10. Find the y co-ordinate of centroid of the triangle whose vertices are (-7,6) , (2,-2),(8,5)

QIV] Solve the following sub-questions (each carries 3 marks) :-

(9)

1. Construct a tangent to a circle with centre P and radius 3.2 cm at any point M on it.
2. In a adjoining figure circle with centre D touches the sides of $\angle ACB$ at A and B. If $\angle ACB = 52^\circ$, find $m \angle ADB$.



3. In $\triangle LMN$, $\angle M = 90^\circ$, $LN = 12\sqrt{2}$ then find MN.

