MATHS

BOOKS - TARGET MATHS (HINGLISH)

BOARD QUESTION PAPER: MARCH 2019

A Solve The Following Questions Any Four

1. If $\triangle ABC \sim \triangle PQR$ and $\angle = 60^\circ$, then $\angle P$?

▶ **Watch Video Solution**

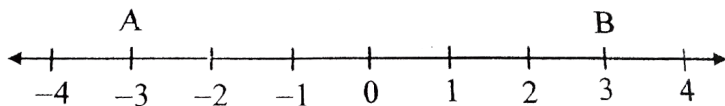**2.** In right-angled $\triangle ABC$, if $\angle B = 90°$, AB = 6, BC=8, then find AC.

> ▶ **Watch Video Solution**

3. Write the length of largest chord of a circle with radius 3.2 cm.

> ▶ **Watch Video Solution**

4. From the given number line, find d(A, B):

Watch Video Solution

5. Find the value of $\sin 30^\circ + \cos 60^\circ$

Watch Video Solution

6. Find the area of a circle of radius 7 cm.

Watch Video Solution

1. Draw seg AB of length 5.7 cm and bisect it.

▶ **Watch Video Solution**

2. In right-angled triangle PQR, if $\angle P = 60°$, $\angle R = 30°$ and PR =12, then find the values of PQ and QR.

▶ **Watch Video Solution**

3. In a right circular cone, if perpendicular height is 12 cm and radius is 5 cm, then find its slant height.

▶ **Watch Video Solution**

A Choose The Correct Alternative

1. ΔABC and ΔDEF are equilateral triangles. If $A(\Delta ABC) : A(\Delta DEF) = 1 : 2$

and AB=4 , then what is the length of DE ?

A. $2\sqrt{2}$

B. 4

C. 8

D. $4\sqrt{2}$

Answer:

2. Out of the following which is a Pythagorean triplet ?

    A. (5, 12, 14,)

    B. (3, 4, 2)

    C. (8, 15, 17)

    D. (5, 5, 2)

Answer:

▶ **Watch Video Solution**

3. $\angle ACB$ is inscribed in arc ACB of a circle with centre O. If $\angle ACB = 65°$, find m(arc ACB).

A. $130°$

B. $295°$

C. $230°$

D. $65°$

Answer:

▶ **Watch Video Solution**

4. $1 + \tan^\circ \theta =$?

A. $\sin^2 \theta$

B. $\sin^2 \theta$

C. $\cos ec^2\theta$

D. $\cot^2 \theta$

Answer:

▶ **Watch Video Solution**

B Solve The Following Questions Any Two

1. Draw a tangent at any point R on the circle

of radius 3.4 cm and centre at P ?

2. Find slope of a line passing through the

points A(3, 1) and B(5, 3).

3. Find the surface area of a sphere of radius 3.5 cm.
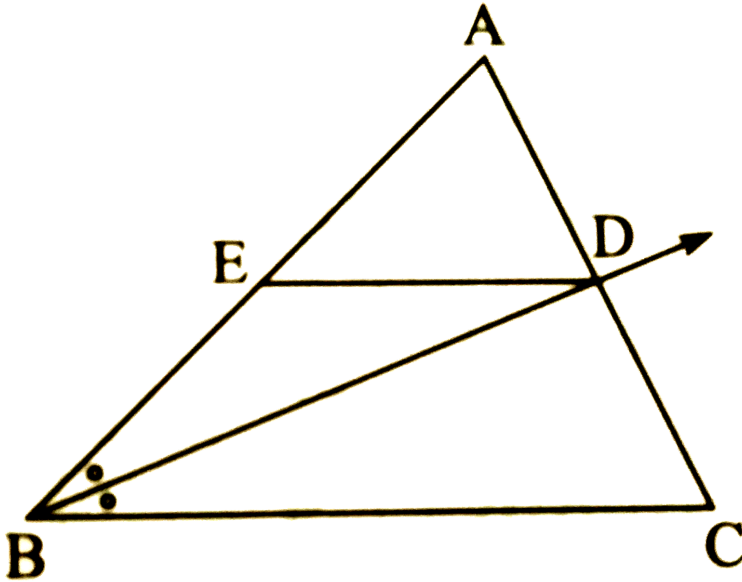
> ▶ **Watch Video Solution**

1. In $\triangle ABC$, ray BD bisects $\angle ABC$. $A - D - C$, side $DE \parallel$ side BC, $A - E - B$.

Prove that, $\dfrac{AB}{BC} = \dfrac{AE}{EB}$.

Complete the activity by filling the boxes.

In $\triangle ABC$, ray BD is the bisector of $\angle ABC$

$$\therefore \frac{AB}{BC} = \square \text{........} (I) \quad \text{(By angle bisector theorem)}$$

In $\triangle ABC$, seg $DE \, || $ side BC

$$\therefore \frac{AE}{EB} = \frac{AD}{DC} \text{........} (II) \, \square$$

$$\therefore \frac{AB}{\square} = \frac{\square}{EB} \text{........} [\text{From } (I) \text{ and } (II)]$$

2. Inscribed Angle Theorem

The measure of an inscribed angle is half of the measure of the arc intercepted by it.

Given : In a circle with centre O, $\angle BAC$ is inscribed in an arc BAC. $\angle BAC$ intercepts are BXC of the circle.

To prove : $m\angle BAC = \dfrac{1}{2}$ m (arc BXC) .

3. How many solid cylinders of radius 6 cm and height 12 cm can be made by melting a solid sphere of radius 18 cm?

Activity: Radius of the sphere, r = 18 cm

For cylinder, radius R = 6 cm, height H = 12 cm

$\therefore$ Number of cylinders can be made

$$= \frac{\text{Volume of the sphere}}{\square}$$

$$= \frac{\frac{4}{3}\pi r^3}{\square}$$

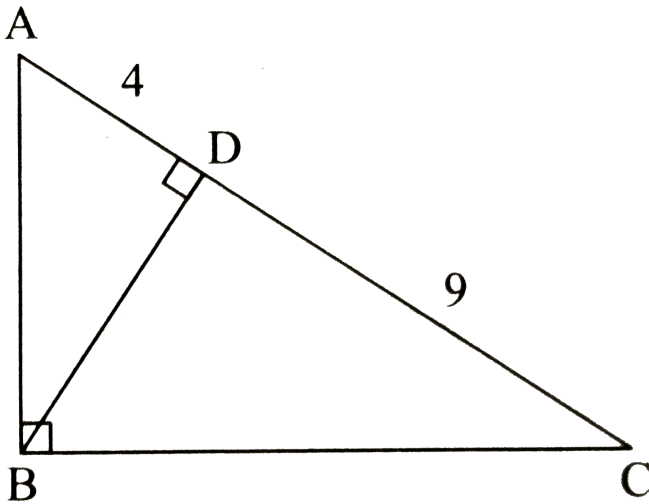$$= \frac{\frac{4}{3} \times 18 \times 18 \times 18}{\square}$$

$$= \square$$

▶ **Watch Video Solution**

1. In right angled $\triangle ABC$, $BD \perp AC$. If $AD = 4$, $DC = 9$, then find BD.

2. Verify whether the following points are collinear or not:

A (1, –3), B (2, –5), C (–4, 7).

▶ **Watch Video Solution**

3. If $\sec\theta = \dfrac{25}{7}$, then find the value of $\tan\theta$

▶ **Watch Video Solution**

Solve The Following Questions Any Three

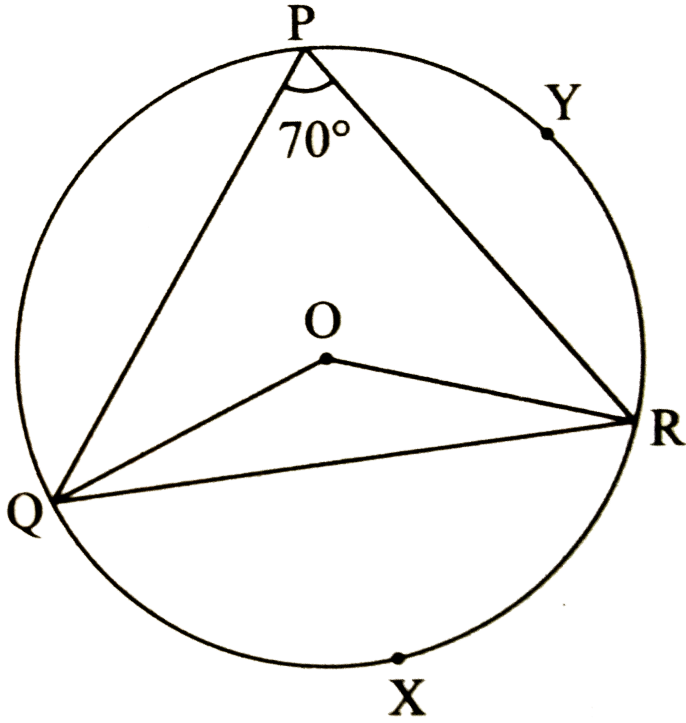**1.** In $\triangle PQR$,seg PM is a median , PM=9 and $PQ^\circ + PR^2 = 290.$ Find the length of QR.

2. In the figure, O is the centre of circle $\angle QPR = 70^\circ$ and m (arc PYR) $= 160^\circ$, then find the value of each of the following :

(a) m (arc QXR)

(b) $\angle QOR$

(c) ∠PQR

3. Draw a circle of radius 3.5 cm . Take a point P outside the circle at a distance of 7 cm from the centre of the circle and construct a pair of tangents to the circle from the point.
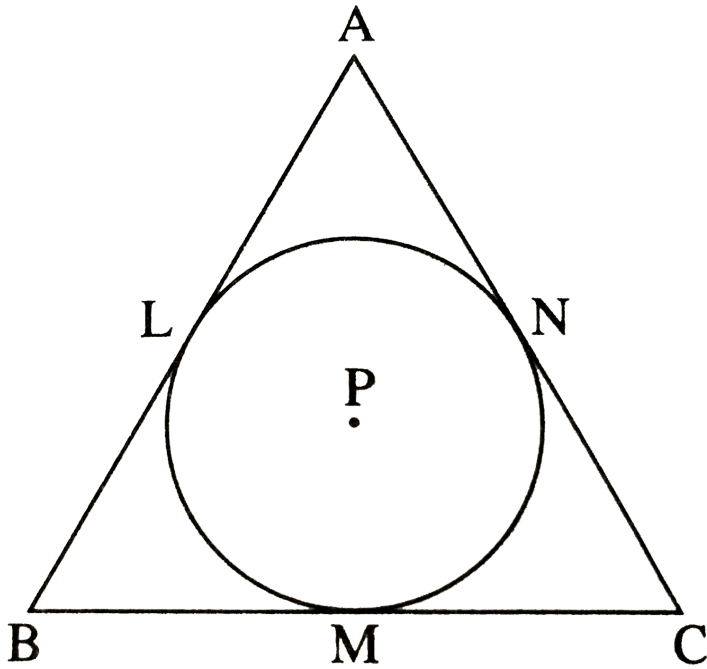
4. When an observer at a distance of 12 m from a tree looks at the top of the tree, the angle of elevation is $60°$. What is the height of the tree?

Solve The Following Questions Any One

1. A circle with centre P is inscribed in the $\triangle$ ABC. Side AB, side BC and side AC touch the circle at points L,M and N respectively. Radius of the circle is r. Prove that:

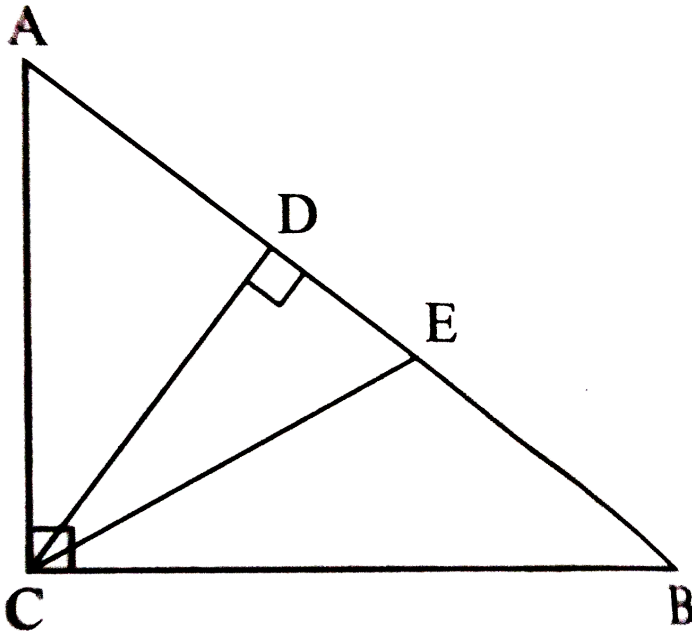$$A(\triangle ABC) = \frac{1}{2}(AB + BC + AC) \times r.$$

2. In $\triangle ABC, \angle ACB = 90°$, seg $CD \perp$ side AB and seg CE is angle bisector of $\angle ACB$

Prove : $\dfrac{AD}{BD} = \dfrac{AE^2}{BE^2}$

3. Show that the points (2,0), (-2,0) and (0,2)

are the vertices of

a triangle. Also state with reason the type of the triangle .

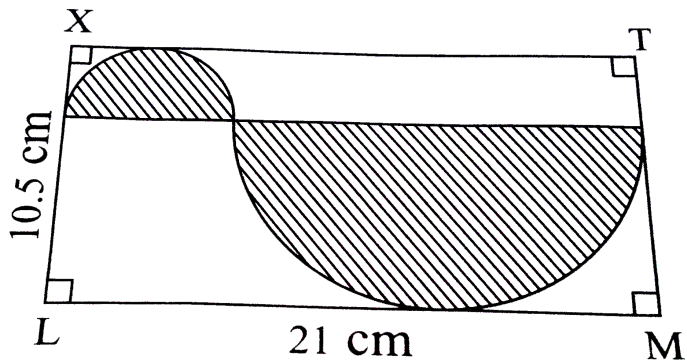**4.** In the figure, $\square XLMT$ is a rectangle. $\angle M = 21cm$, XL = 10. 5 cm. Diameter of the smaller semicircle is half the diameter of larger semicircle. Find the area of non-shaded

region.

X

T

L

21 cm

M

10.5 cm