MATHS

BOOKS - TARGET MATHS (HINGLISH)

MODEL QUESTION PAPER (PART - II)

Questions

1. Write the converse statement of the following statement : If a quadrilateral is a rhombus then its diagonals are perpendicular

bisectors of each other . Also state whether the converse statement is true .

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2. Write the equation of a line parallel to X-axis and at a distance 3 cm above it.

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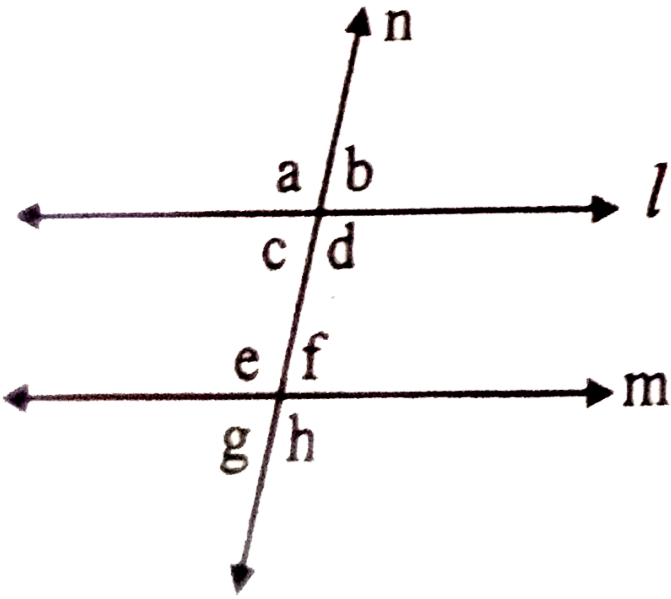
3. As shown in the figure, if lines / and m are parallel, then write algebraic equations using

the property of interior angles.



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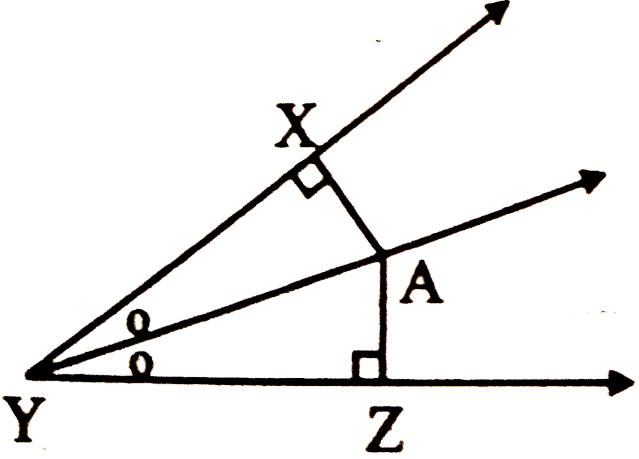
4. In the given figure, point A is on the bisector of $\angle XYZ$. $If AX = 5.5cm$, then find AZ.



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5. Find the value of $\frac{\sin 32^\circ}{\cos 58^\circ}$

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6. Curved surface area of a cylinder is $440cm^2$ and the radius of its base is 7 cm. Find the height of the cylinder.

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7. If the two sides and an angle of a triangle is given, it is possible to draw that triangle' Is the above statement correct ? Justify.

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8. Draw a circle of any radius. Draw diameter PQ. Take 3 points S, T and U any where on the circle. Measure $\angle PSQ, \angle PTQ$ and $\angle PUQ$. What do you observe?

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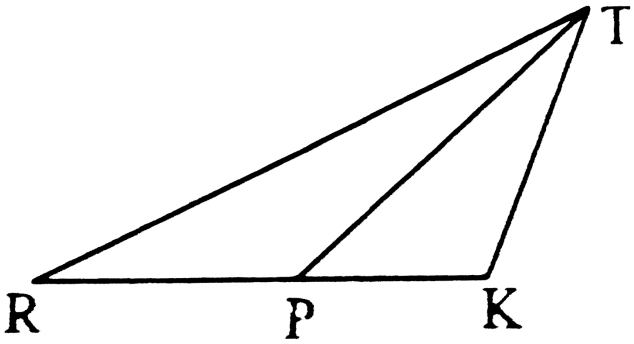
9. In the figure, RP : PK = 11 : 8, then $\frac{A(\Delta TRP)}{A(\Delta TPK)} =$



A. $11:8$

B. $8:11$

C. $19:11$

D. $11:19$

Answer:

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10. If $\tan\theta = \frac{3}{4}$, then $\cos^2\theta - \sin^2\theta = \frac{7}{25}$

(b) 1 (c) $-\frac{7}{25}$ (d) $\frac{4}{25}$

A. $\frac{3}{25}$

B. $\frac{4}{25}$

C. $\frac{7}{25}$

D. $\frac{9}{25}$

Answer:

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11. The ratio of circumference and area of a circle is $2:7$. Find its circumference.

A. 14π

B. $\frac{7}{\pi}$

C. 7π

D. $\frac{14}{\pi}$

Answer:

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12. Find the curved surface area of a cone of radius 7 cm and height 24 cm.

A. $440cm^2$

B. $550cm^2$

C. $330cm^2$

D. $110cm^2$

Answer:

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13. Find the area of sector whose arc length and radius are 20 cm and 8 cm respectively.

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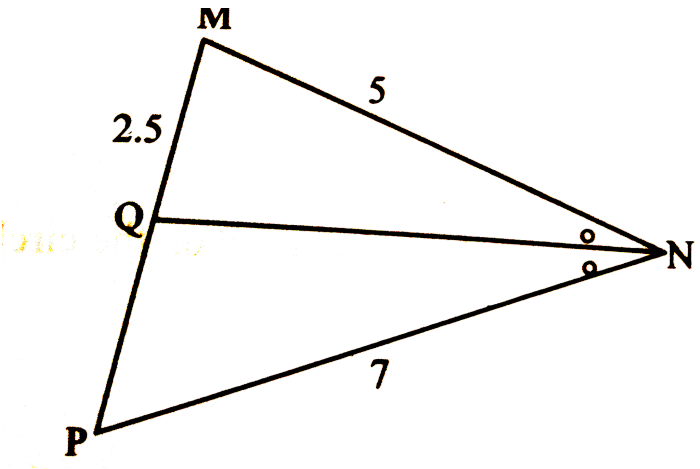
14. In ΔMNP, NQ is a bisector of angle N. If $MN = 5, PN = 7, MQ = 2.5$,then find QP



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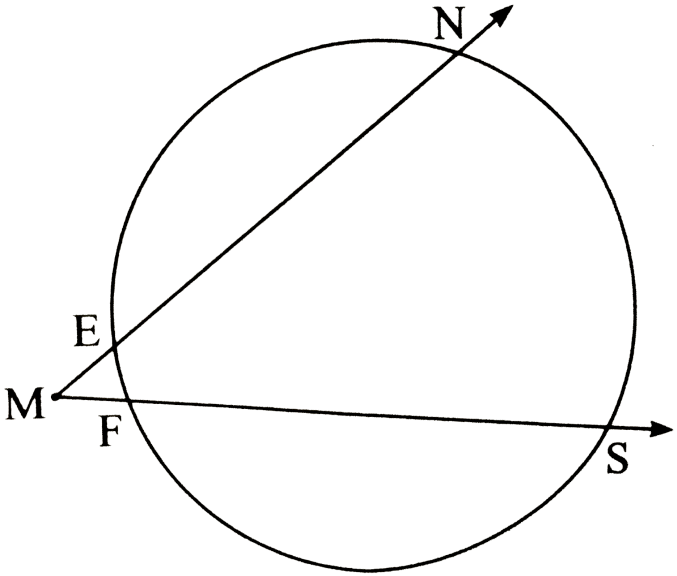
15. In the figure,

m) arc NS) $= 125^\circ$

m (arc EF) = 37°

find the measure $\angle NMS$,



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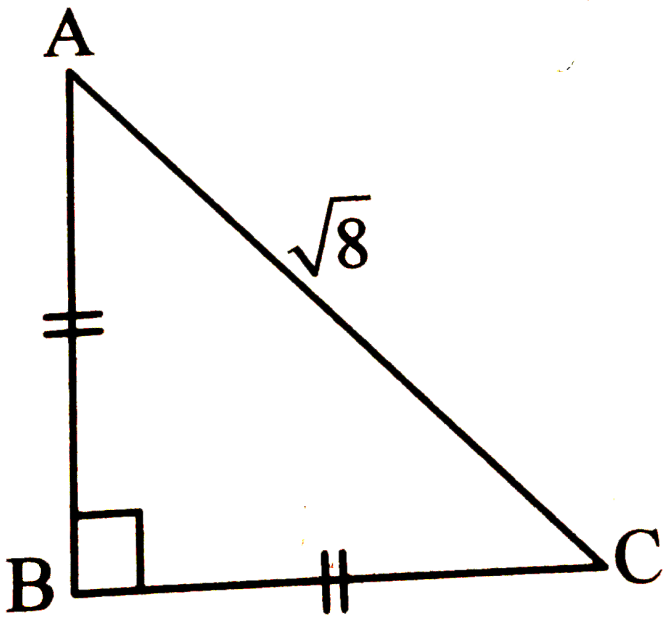
16. For finding AB and BC with the help of information given in the adjoining figure, complete the following activity.



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17. Theorem: The ratio of the areas of two triangles is equal to the ratio of the product of their bases and corresponding heights.

To prove the above theorem,

a. Draw two triangles, and show their bases and heights.

b. Write 'given' and 'to prove' from the figures drawn.

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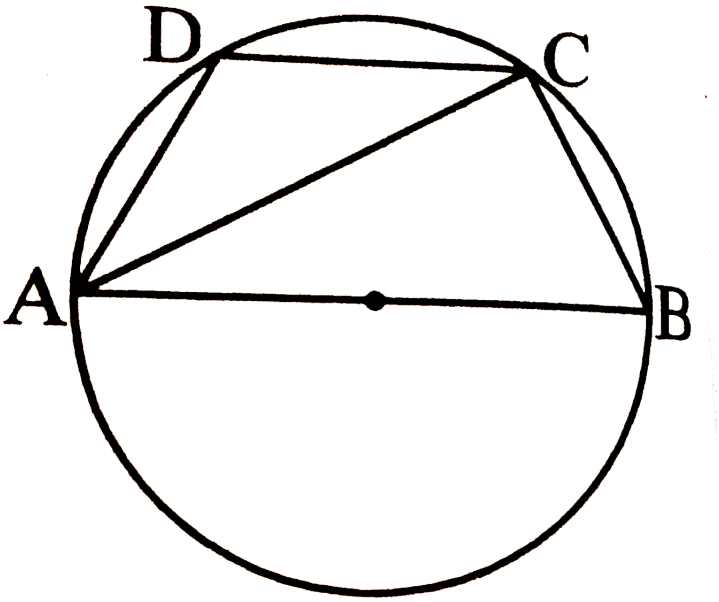
18. In the figure, $\square ABCD$ is a cyclic quadrilateral. seg AB is a diameter. If $\angle ADC = 120^\circ$, find the measure of $\angle BAC$.



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19. Draw a circle of radius 2.5cm. Take a point P at a distance of 8 cm from its centre. Construct a pair of tangents from the point P to the circle.

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20. Prove that:

$$\sec\theta + \tan\theta = \frac{\cos\theta}{1 - \sin\theta}.$$

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21. Find the co-ordinates of point P if P divides the line segment joining the points $A(-1, 7)$ and $B(4, -3)$ in the ratio $2:3$

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22. A storm broke a tree and the treetop rested 20 m from the base of the tree, making an angle of 60° with the horizontal. Find the height of the tree.

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23. Draw a circle of radius 2.5cm. Take a point P at a distance of 8 cm from its centre. Construct a pair of tangents from the point P to the circle.

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24. In the adjoining figure, if A is the centre of the circle, $\angle PAR = 30^\circ\, AP = 7.5,$ find the area of the segment PQR. $(\pi = 3.14)$

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25. Prove that, in a right-angled triangle, the square of hypotenuse is equal to the sum of the square of remaining two sides.

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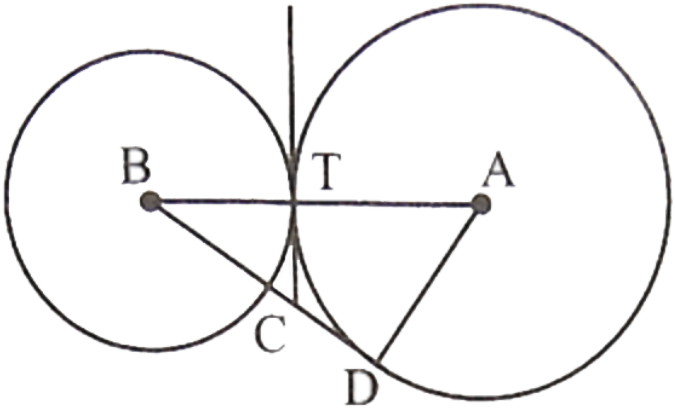
26. Two circles with centres at A and B touch each other externally at T. Let BD is the tangent at D and TC is a common tangent. If AT has length 3 units and BT has length 2

units, then the length (in units) of CB is



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27. Prove that the tangent at any point of circle is perpendicular to the radius through the point of contact.

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28. If a and b are natural numbers and a gt b, then show that $\left(a^2+b^2\right), \left(a^2-b^2\right), (2ab)$ is a pythagorean triplet. Find two Pythagorean triplets using any convenient values of a and b.

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