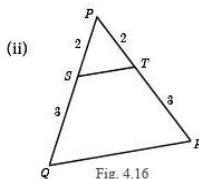


3. Two poles of heights 6m and 11m stand vertically on a plane ground. If the distance between their feet is 12m, what is the distance between their tops?
 a) 13m b) 14m c) 15m d) 12.8m
4. A tangent is perpendicular to the radius at the
 a) centre b) point of contact c) infinity d) chord
5. How many tangents can be drawn to the circle from an exterior point?
 a) one b) two c) infinite d) zero

SECTION - B

Answer any TEN questions only:

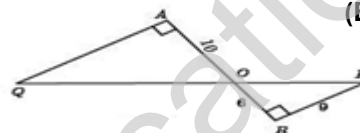
6. Show that $\Delta PST \sim \Delta PQR$.



10 x 2 = 20
(Eg.4.1)

7. In Fig. QA and PB are perpendiculars to AB.

If $AO = 10$ cm, $BO = 6$ cm and $PB = 9$ cm. Find AQ .



(Eg.4.6)

8. The perimeters of two similar triangles ABC and PQR are respectively 36 cm and 24 cm.

If $PQ = 10$ cm, find AB .

(Eg.4.7)

9. If ΔABC is similar to ΔDEF such that $BC = 3$ cm, $EF = 4$ cm and area of $\Delta ABC = 54$ cm².

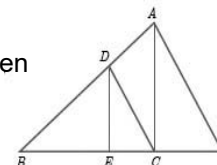
Find the area of ΔDEF .

(Eg.4.8)

10. A vertical stick of length 6 m casts a shadow 400cm long on the ground and at the same time a tower casts a shadow 28m long. Using similarity, find the height of the tower.
(Ex.4.1/3)

11. In the $\Delta ABC \sim \Delta DEF$ such that area of ΔABC is 9cm² and the area of ΔDEF is 16cm² and $BC = 2.1$ cm. Find the length of EF .
(Ex.4.1/ 8)

12. In ΔABC if $DE \parallel BC$, $AD = x$, $DB = x - 2$, $AE = x+2$ and $EC = x - 1$ then find the lengths of the sides AB and AC .



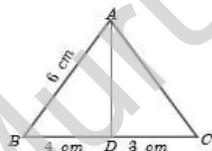
(Eg.4.12)

13. In the Fig. $DE \parallel AC$ and $DC \parallel AP$. Prove that $\frac{BE}{EC} = \frac{BC}{CP}$.

(Eg.4.14)

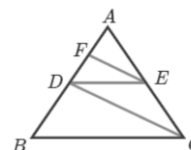
14. In the Fig., AD is the bisector of $\angle A$. If $BD = 4$ cm, $DC = 3$ cm and $AB = 6$ cm, find AC .

(Eg.4.15)



15. In trapezium ABCD, $AB \parallel DC$, E and F are points on non-parallel sides AD and BC respectively, such that $EF \parallel AB$. Show that $\frac{AE}{ED} = \frac{BF}{FC}$.
(Ex.4.2/6)

16. In figure $DE \parallel BC$ and $CD \parallel EF$. Prove that $AD^2 = AB \times AF$.
(Ex.4.2/ 7)



17. Find the length of the tangent drawn from a point whose distance from the centre of a circle is 5cm and radius of the circle is 3 cm.
(Eg.4.24)

18. The length of the tangent to a circle from a point P, which is 25 cm away from the centre is 24 m. What is the radius of the circle?
(Ex.4.4/1)

19. State Ceva's Theorem.

SECTION - C

Answer any TEN questions only:

10 x 5 = 50

20. Two poles of height 'a' metres and 'b' metres are 'p' metres apart. Prove that the height of the

10th MATHEMATICS



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