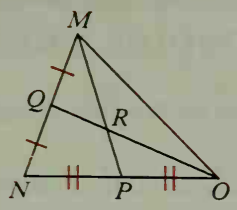
8. The ___?___ of a triangle intersect in a point that is equidistant from the vertices of the triangle. **10–3**

9. The ___?___ of a triangle intersect in a point that is equidistant from the sides of the triangle.

10. If $MR = 12$, then $MP =$ ___?___.

11. $QR:RO =$ ___?___ (numerical answer)



Exs. 10, 11

Draw a large $\odot O$. Label a point F on $\odot O$ and a point G outside $\odot O$.

12. Construct the tangent to $\odot O$ at F. **10–4**

13. Construct a tangent to $\odot O$ from G.

14. Draw a large acute triangle. Find, by construction, the center of the circle that could be inscribed in the triangle.

15. Draw a large obtuse triangle. Construct a circle that circumscribes the triangle.

Draw segments about as long as those shown below. In each exercise, construct a segment with the required length t.

16. $t^2 = bc$ **17.** $at = bc$ **18.** $t = \frac{1}{3}(a + b)$ **10–5**

19. Given two parallel lines l and m, what is the locus of points in their plane and equidistant from them? **10–6**

20. Given two points A and B, what is the locus of points, in space, equidistant from A and B?

21. What is the locus of points in space equidistant from two parallel planes?

22. What is the locus of points in space that are equidistant from the vertices of equilateral $\triangle HJK$?

23. Points P and Q are 6 cm apart. What is the locus of points in a plane that are equidistant from P and Q and are 8 cm from P? Sketch the locus. **10–7**

24. Point R is on line l. What is the locus in space of points that are 8 cm from l and 8 cm from R?

25. What is the locus of points in space that are 1 m from plane Q and 2 m from point Z not in Q? (There is more than one possibility.)

Use the segments with lengths a, b, and c that you drew for Exercises 16–18.

26. Construct an isosceles right triangle with hypotenuse of length a. **10–8**

27. Construct a $\triangle RST$ with $RS = a$, $RT = c$, and the median to $\overline{RS}$ of length b.