

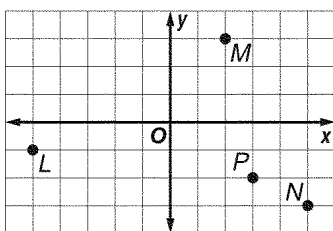
Summer Math Packet

Geometry into Algebra 2/Trig

Short Answer

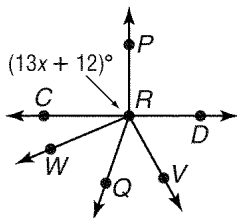
1. Find the length of \overline{LO} if O is between points L and M , $LM = 18.6$ centimeters, and $OM = 12.9$ centimeters.

Use the coordinate grid.



2. Find the distance between L and M .

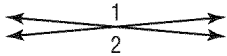
In the figure, \overrightarrow{RC} and \overrightarrow{RD} are opposite rays and \overrightarrow{RQ} bisects $\angle WRV$.



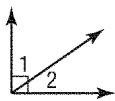
3. Find y if $m\angle WRQ = 48$ and $m\angle QRV = 7y + 6$.

4. Name the operation that transforms $4x - 2 = 7x + 7$ to $4x = 7x + 9$, then find x .

5. If $m\angle 1 = 5x + 20$ and $m\angle 2 = 3x + 80$, find $m\angle 1$.



6. If the ratio of $m\angle 1$ to $m\angle 2$ is 5 to 4, find $m\angle 2$.



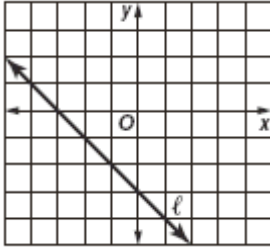
Determine the slope of the line that contains the given points.

7. $B(7, -1), G(14, 0)$

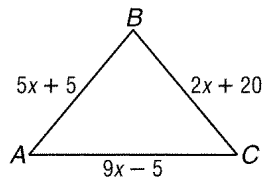
Write an equation in slope-intercept form for the line that satisfies the given conditions.

8. $m = -4$, contains $(-4, 8)$

9. Construct a line perpendicular to ℓ through $Q(2, 3)$. Then find the distance from Q to ℓ .

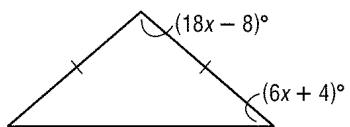


10. Find x, AB, BC, AC if $\triangle ABC$ is isosceles.

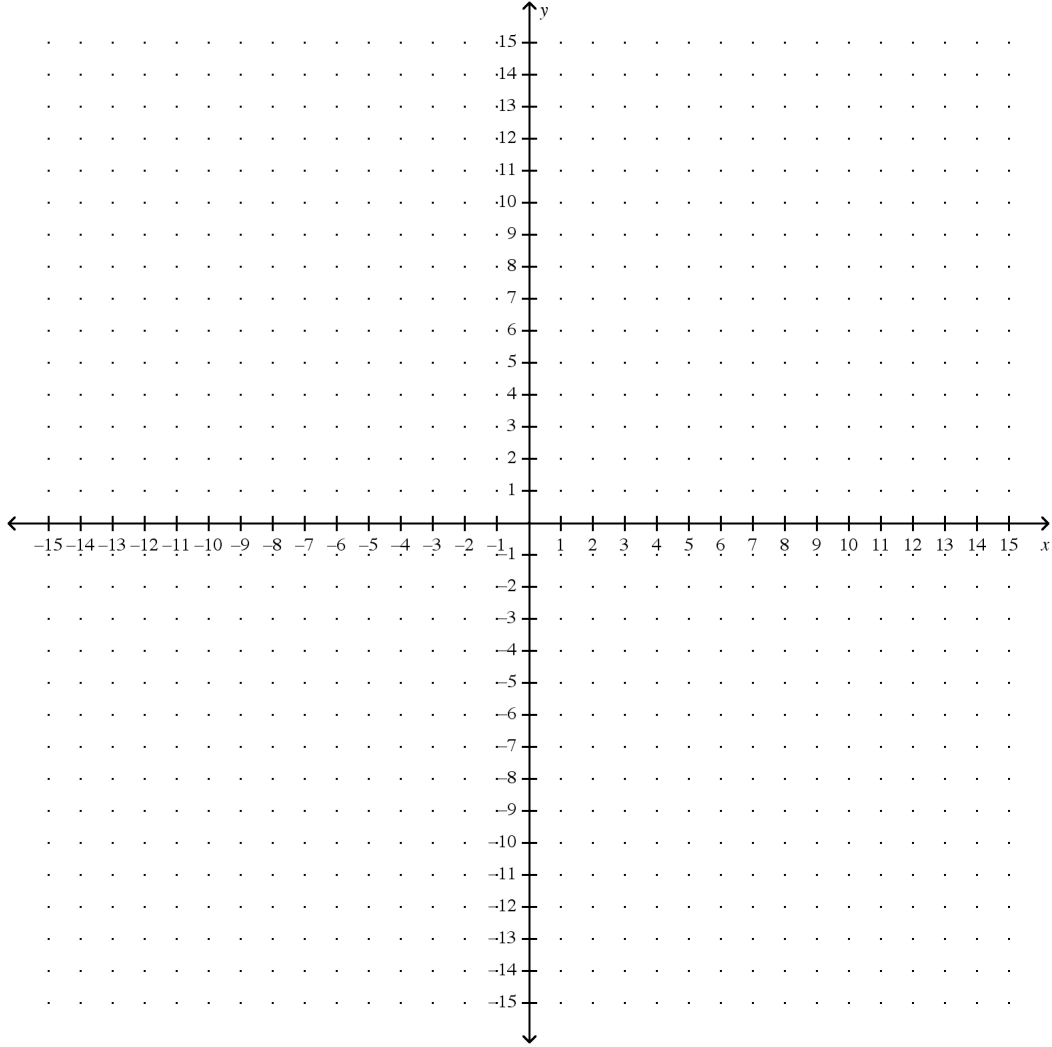


11. A square piece of paper measuring 8 inches on each side is folded in half forming a triangle. It is then folded in half again to form another triangle. Find the angles of the resulting triangle.

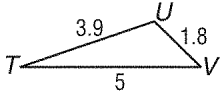
12. Find x .



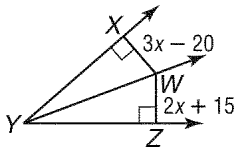
13. The vertices of $\triangle DEF$ are $D(4, 12)$, $E(14, 6)$, and $F(-6, 2)$. Find the coordinates of the circumcenter of $\triangle DEF$.



14. List the angles of $\triangle TUV$ in order from least to greatest measure.

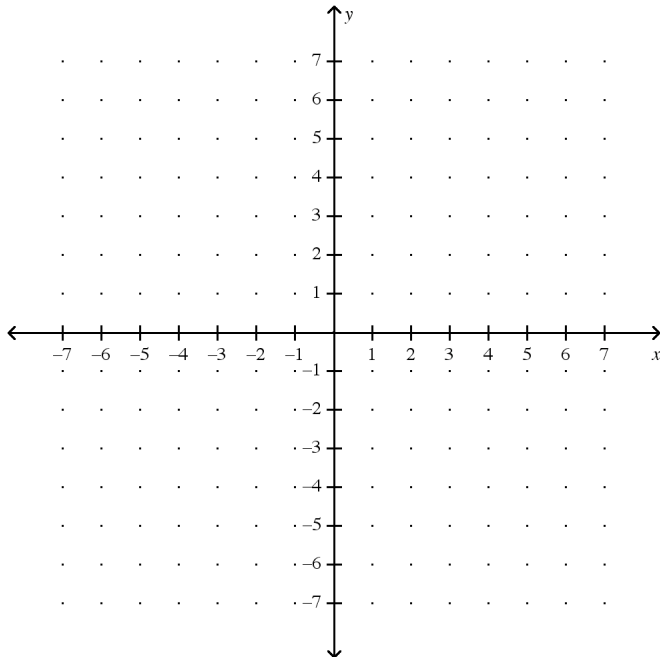


15. If \overrightarrow{YW} bisects $\angle XYZ$, find x .

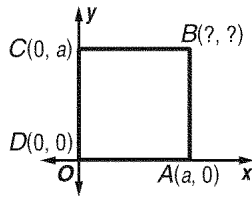


16. A convex octagon has interior angles with measures $(x + 55)^\circ$, $(3x + 20)^\circ$, $4x^\circ$, $(4x - 10)^\circ$, $(6x - 55)^\circ$, $(3x + 52)^\circ$, $3x^\circ$, and $(2x + 30)^\circ$. Find x .

17. Find the coordinates of the intersection of the diagonals of parallelogram $XYZW$ with vertices $X(3, 0)$, $Y(3, 8)$, $Z(-2, 6)$, and $W(-2, -2)$.

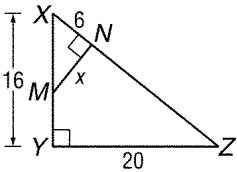


18. Name the missing coordinates for square $ABCD$. Then determine the coordinates of the midpoints of the diagonals.



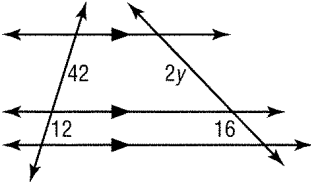
19. The model of a suspension bridge is 18 inches long and 2 inches tall. If the length of the actual bridge is 1650 feet, find its height.

Use the figure below.

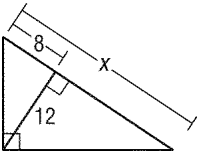


20. Identify the similar triangles.

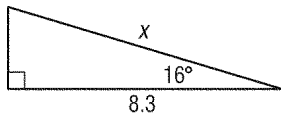
21. Find y .



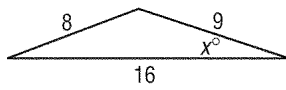
22. Find x .



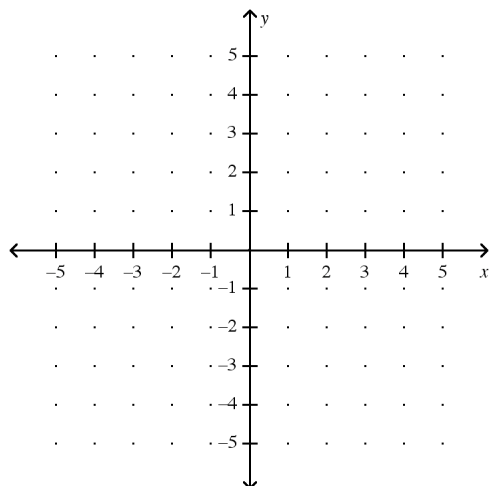
23. Find x to the nearest tenth.



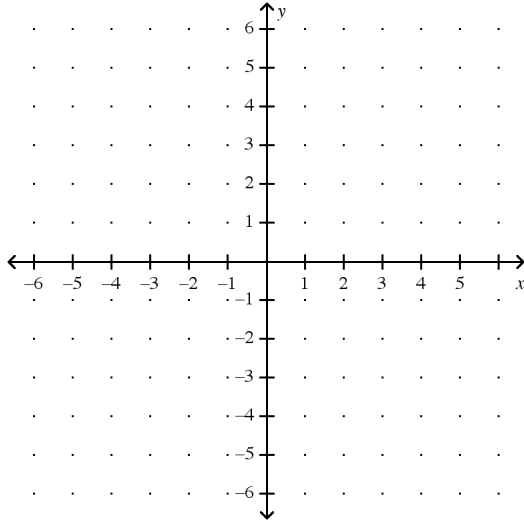
24. Find x to the nearest degree.



25. Graph $\triangle PQR$ with vertices at $P(3, 4)$, $Q(5, -1)$, and $R(-3, 0)$. Then graph the image of $\triangle PQR$ reflected in the x -axis.

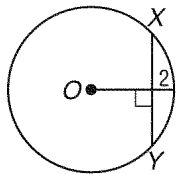


26. Find the coordinates of Q'' if $\triangle OPQ$ with $O(4, 2)$, $P(5, 0)$, and $Q(1, -2)$ is reflected in the x -axis and then in the y -axis.



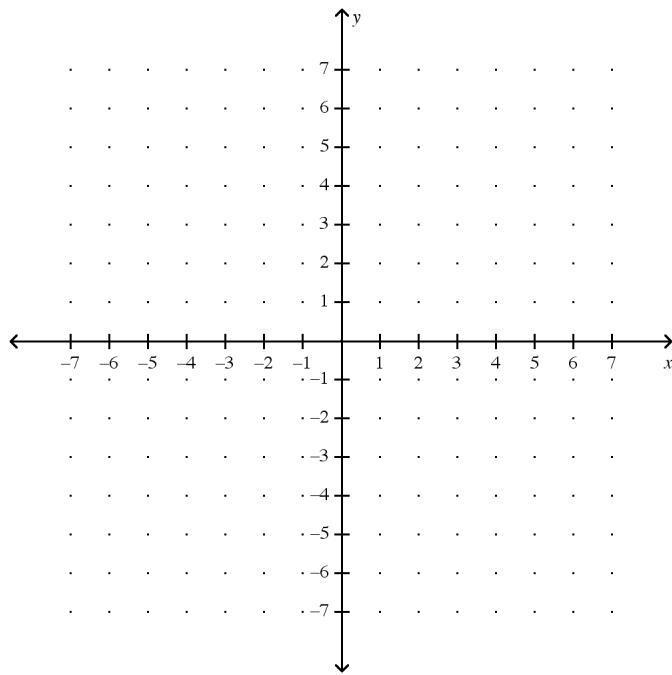
27. Find the measure of the image of \overline{GH} if $GH = 7$ under a dilation with a scale factor of 5.

28. Find the radius of $\odot O$ if $XY = 10$.

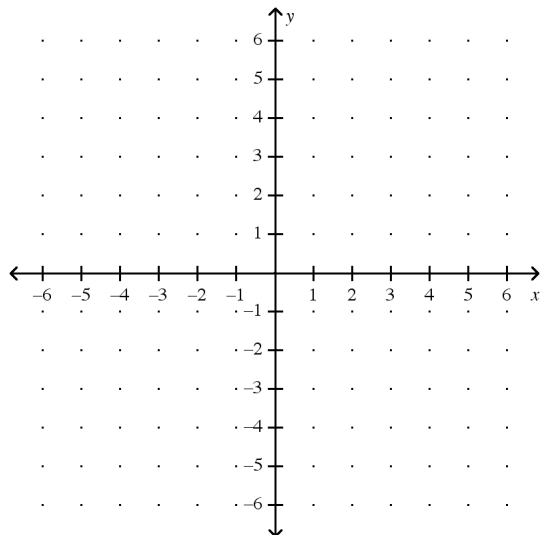


29. \overleftrightarrow{EF} is tangent to circle P at $G(3, 6)$. If the slope of \overleftrightarrow{EF} is $\frac{5}{3}$, what is the slope of \overline{GP} ?

30. Graph $(x - 3)^2 + (y + 1)^2 = 25$.

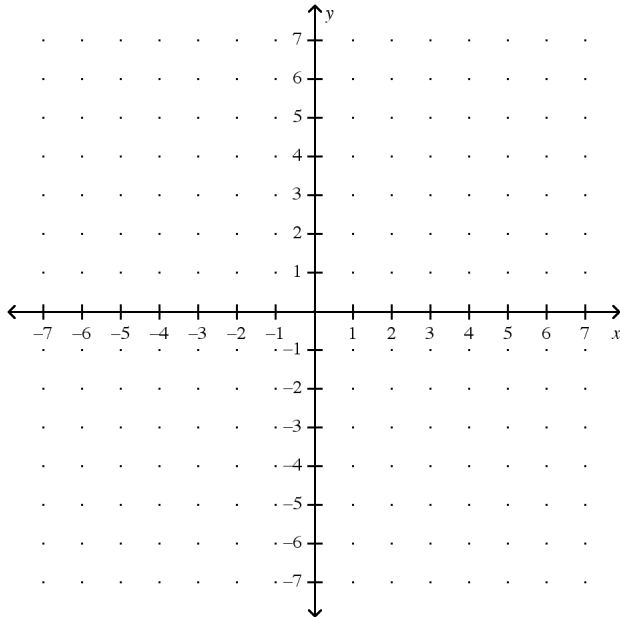


31. Classify quadrilateral $ABCD$, with vertices $A(1, 1)$, $B(1, -3)$, $C(-3, -3)$, and $D(-3, 1)$. List all that apply.



Find the area of each quadrilateral given the coordinates of the vertices.

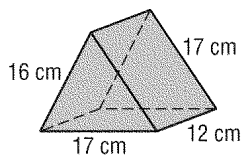
32. rhombus $KLMN$; $K(-3, 7)$, $L(0, 3)$, $M(-3, -1)$, and $N(-6, 3)$



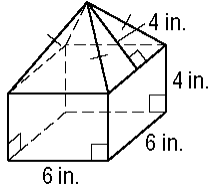
Find the area of each polygon. Round to the nearest tenth if necessary.

33. a regular hexagon with side length of 15 centimeters

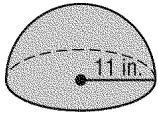
34. Find the surface area of the solid.



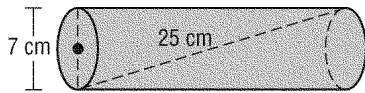
35. Find the surface area of the solid.



36. Find the surface area of the hemisphere. Round to the nearest tenth.



37. Find the volume of the cylinder. Round to the nearest tenth.



38. A square pyramid has a height that is 51 inches and a base with sides that are each 11 inches long. Find the volume of the pyramid.

39. The height of a cone is tripled and the radius is doubled. The volume is how many times as great?

40. The ratio of the heights of two similar pyramids is 2:5 and the volume of the smaller pyramid is 100 cubic feet. Find the volume of the larger pyramid.