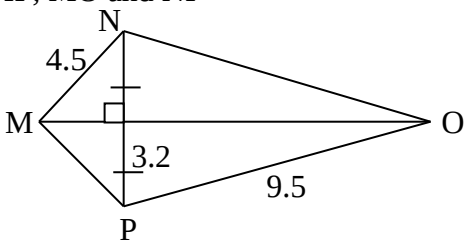
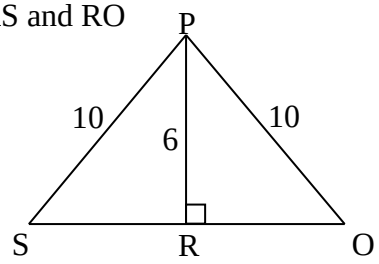
Geometry 2 Name_____
Final Exam Review Packet Period_____
SHOW ALL WORK TO RECEIVE CREDIT.
Find the indicated values.

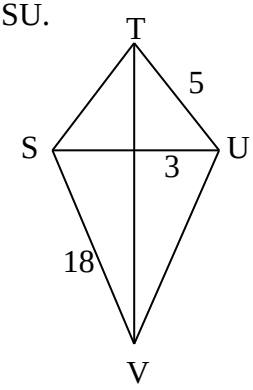
1. Given: MNOP.
Find MP, MO and NP



2. Given:
$m\measuredangle SPR = 5n - 20$ and $m\measuredangle OPR = 3n$
Find *n*, RS and RO



3. Given: $\overline{TV}$ $\perp$ bis $\overline{SU}$
Find TS, UV and SU.



HIJK is a rectangle. Find the value of *x* and the length of each segment.

4. $HJ = 4x$ and $IK = 7x - 15$

5. $HJ = 2x + 50$ and $IK = 4x$

Find the values of the variables. Then find the lengths of the sides.

6. WXYZ is a square.
$WX = \frac{3x}{4}$ and $XY = x - 20$

7. ABCD is a rhombus.
$AD = 3m + 15$ and $BC = 4m$

8. QRST is a rectangle.
$QT = 5x + 4, QR = 4x, ST = y + 1$ and $RS = 3y$

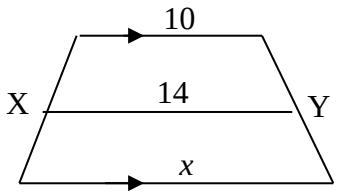
9. LMNO is a square.
$LM = x + 4$ and $MN = 5x - 12$

For what value of *x* is the figure the given special parallelogram?

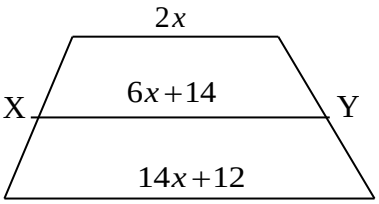
10. QRST is a rectangle with diagonals intersecting at E. $QE = 4x - 8$ and $SE = 3x - 4$

11. Rectangle XYZA with diagonals intersecting at P. $AP = 8x - 8$ and $ZP = 4x$

12 $\overline{XY}$ is a median. Solve for *x*.



13. $\overline{XY}$ is a median. Solve for *x*.



Find the sum of the measures of the angles of the following polygons.

14. octagon

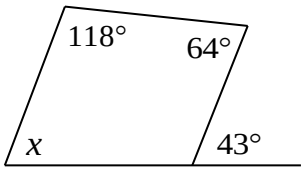
15. decagon

Find the measure of each angle in the following regular polygons. Round to the nearest tenth.

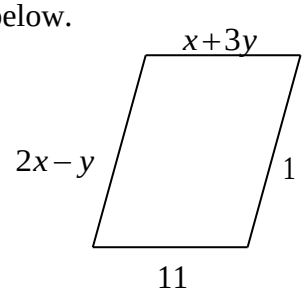
16. hexagon

17. pentagon

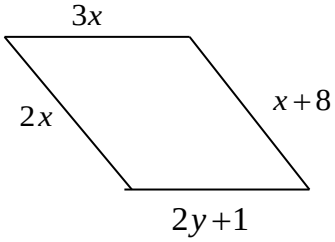
18. Solve for *x*.



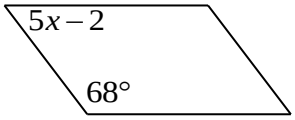
19. Solve for *x* and *y* in the parallelogram below.



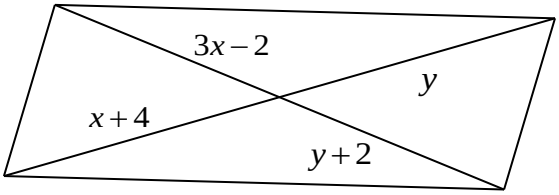
20. For what values of *x* and *y* will the figure below be a parallelogram?



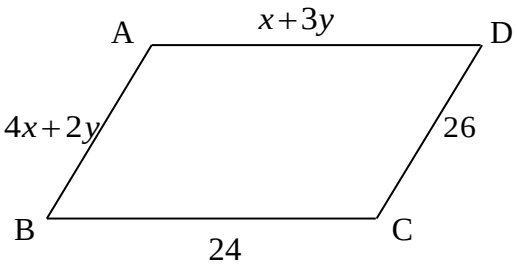
21. Solve for *x* in the parallelogram below.



22. Solve for x and y in the parallelogram below.



23. For what values of x and y will ABCD be a parallelogram?

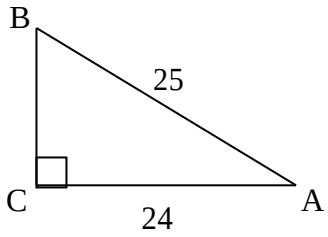


24. Write the following ratios for ΔABC.

(a) Sin A

(b) Cos A

(c) Tan A



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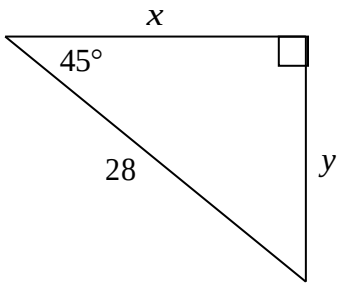

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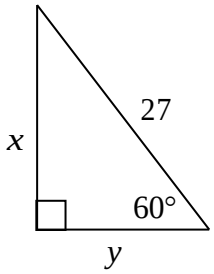

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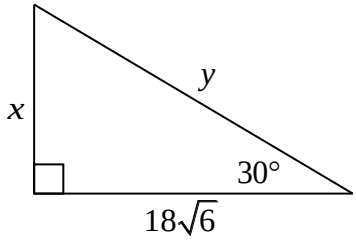

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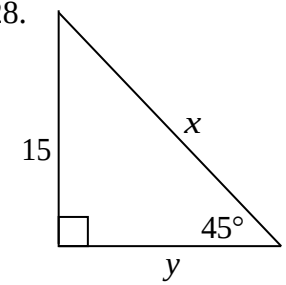
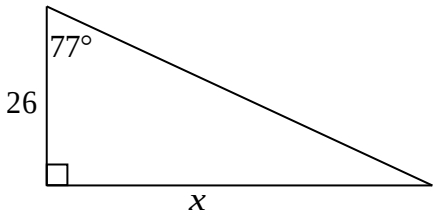
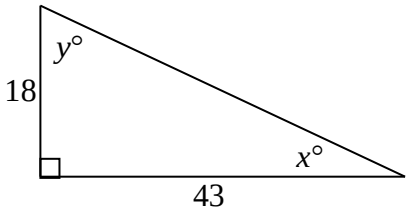


29An equilateral triangle has an altitude of 15 meters. What is the perimeter of the triangle?

30. In the figure at the right, what is the value of x to the nearest tenth?

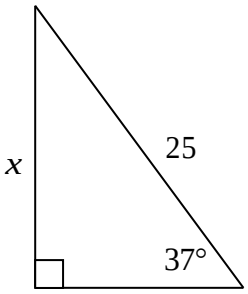


31. In the figure at the right, what is the value of x and y to the nearest tenth of a degree?



In the triangles below, find the value of x to the nearest tenth.

32.



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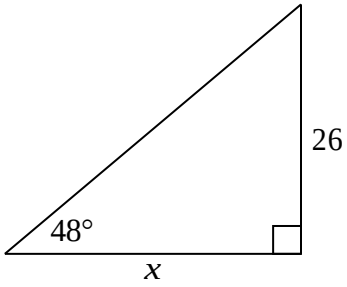

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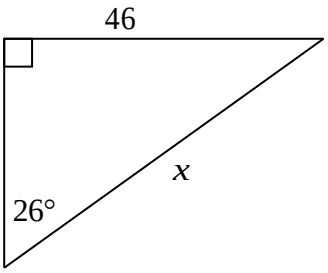

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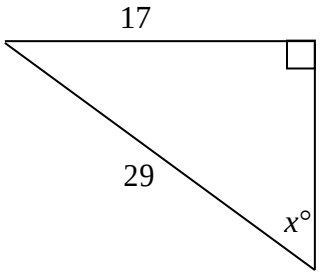
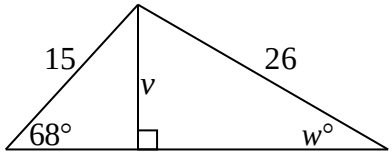
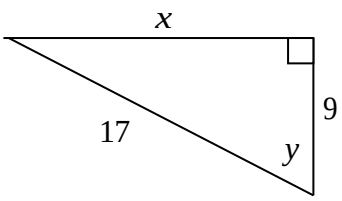


36. In the figure at the right, what is the value of w to the nearest degree?



In each of the following, solve for *x* and *y*. Round answers to two decimal places where needed.

37.



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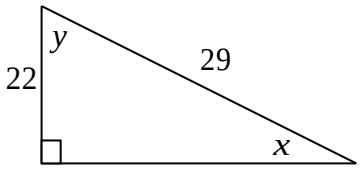

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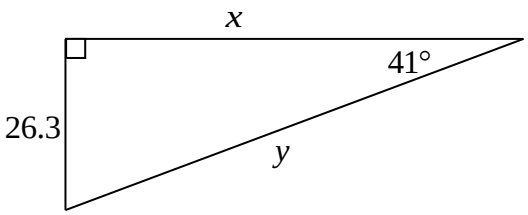

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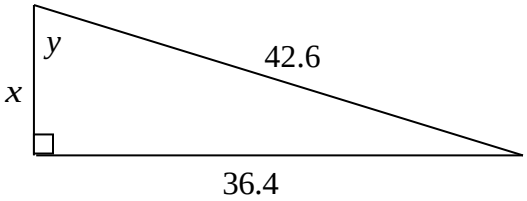
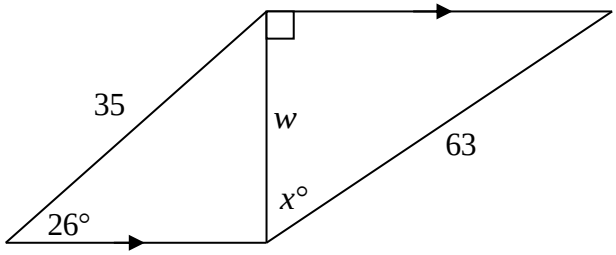


41. A ramp is 15 feet long and makes an angle of $12°$ with the ground. How high is the top of the ramp? Round your answer to two decimal places.

42. A Kite at the end of a 400-foot long string and makes an angle of elevation with the ground of $75°$. If the person's hand is 6 feet above the ground, how high is the kite? Round you answer to the nearest foot.

43. A surveyor measures an angle of elevation of $24.2°$ to the top of a building that is 600 feet from his position. How high is the building? Assume the surveyor's eye is at a height of 5 feet.

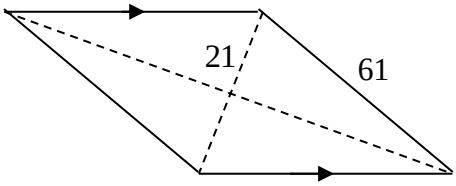
44. Find the measures of x and w in the figure below. Round your answers to two decimal places.



45. A parallelogram has sides of 9 ft and 7ft and an area of 58 ft^2. What is the length of the altitude to the 7-ft base?

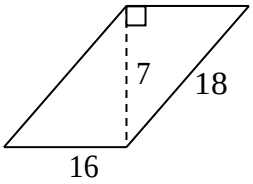
Find the area of each of the following figures.

46. Rhombus



47. Find the area of a rhombus with diagonals of length 29 and 15.

48.



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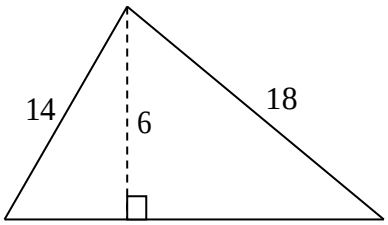
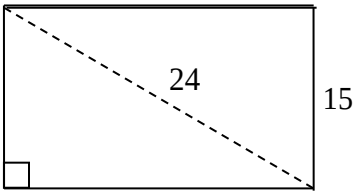
50.



51.



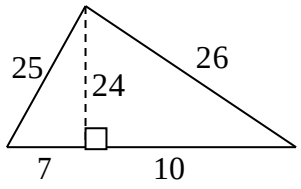
52. Find the area of a regular hexagon with sides of length 18.

53. A trapezoid has an area of 166.5 in^2, height 9 in and one base 15 in. What is the length of the second base?

54. A regular hexagon has a perimeter of 60. What is the area of the hexagon?

55. Two similar polygons have a scale factor of 5 : 3. The larger polygon has an area of 160 and a perimeter of 50. (a) What is the area of the smaller polygon? (b) What is the perimeter of the smaller polygon?

56. What is the area of the triangle to the right?



57. What is the perimeter of the triangle at the right?

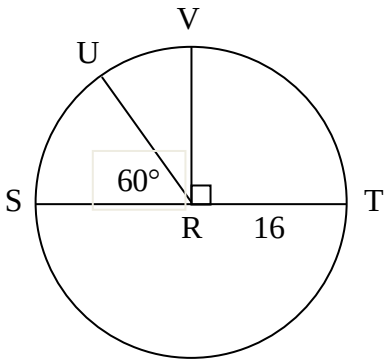
58. Find the lengths of the following arcs.

(a) *SV*

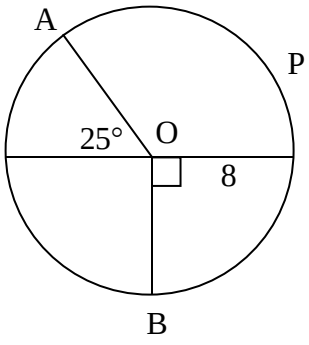
(b) *VT*

(c) *TSV*

(d) What is the area of sector URT?



59. Find the length of *AB*.



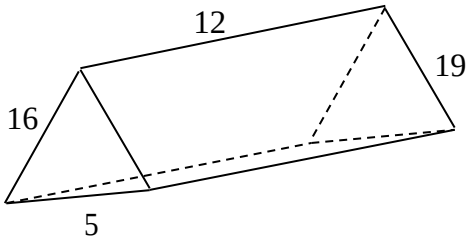
60. A polyhedron has 6 vertices and 12 edges. How many faces does it have?

61. A polyhedron has 24 faces and 36 edges. How many vertices does it have?

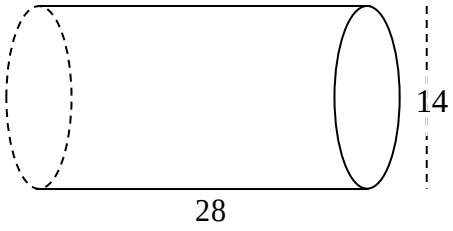
62. A polyhedron has 30 faces and 28 vertices. How many edges does it have?

Find the lateral area (L.A.), surface area (S.A.)and volume (V) of the following solids.

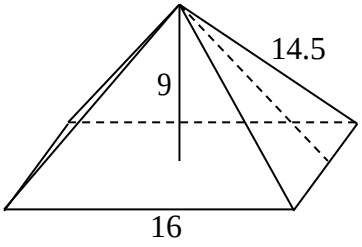
63.



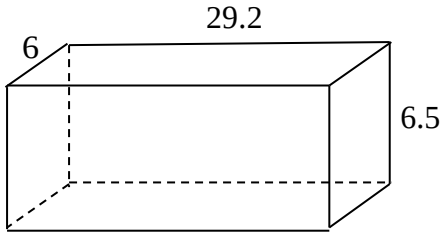
64. Express in terms of π.



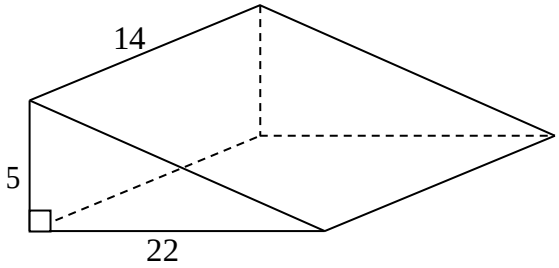
65. Square-based Pyramid



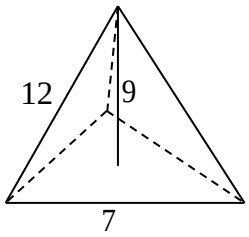
66. What is the surface area of the prism below?



67. Find the lateral area, surface area and the volume of the prism below



68. Find the lateral area, surface area and volume of the equilateral triangle-based pyramid below.

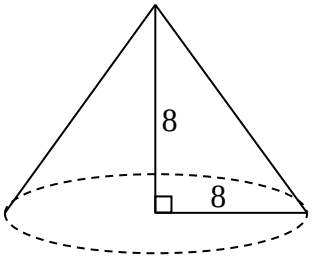


69. What is the surface area of a sphere with a diameter of 16? What is the volume?

70. Two similar rectangular prisms hve a scale factor of 3:2. The volume of the larger prism is 144. What is the volume of the smaller prism?

71. Two spheres have a scale factor of 2:5. The surface area of the smaller sphere is 98π. What is the surface area of the larger sphere?

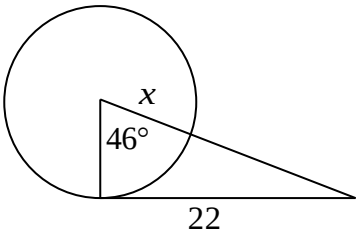
72. What is the volume of the cone pictured at the right rounded to the nearest whole number?



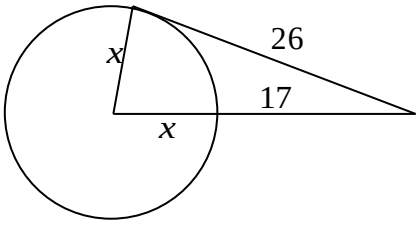
73. The height of a cylinder is four times the diameter of the base. The surface area of the cylinder is 178π. What is the radius of the base?

74. The surface area of two similar prisms are 142 and 397. The volume of the smaller prism is 364. What is the volume of the larger prism?

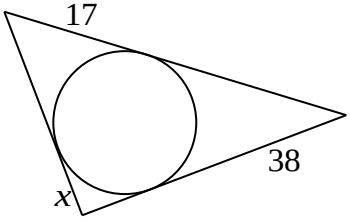
75. Solve for x in the diagram at the right.



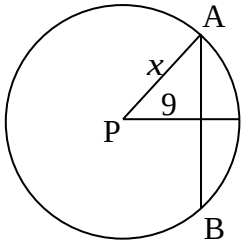
76. Solve for x in the diagram at the right.



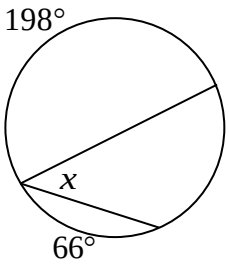
77. Given that the perimeter of the triangle is 112, solve for x.



78. Find the value of x to the nearest tenth in Circle P. AB = 22.

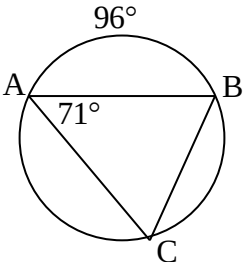


79. Solve for x in the circle at the right.

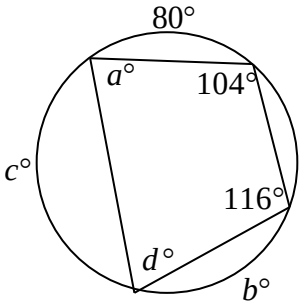


80. Find each indicated measure for the circle at the right.

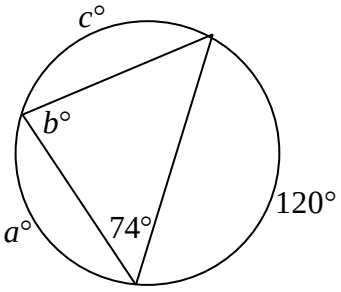
(a) $m\measuredangle B$
(b) $m\measuredangle C$
(c) mBC
(d) mAC



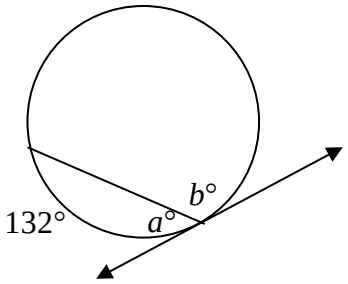
81. Solve for a, b, c and d in the diagram at the right.



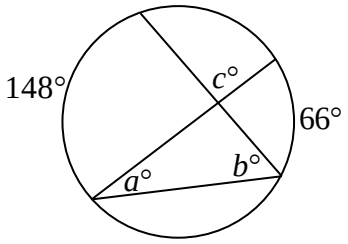
82. Solve for a, b and c in the diagram at the right.



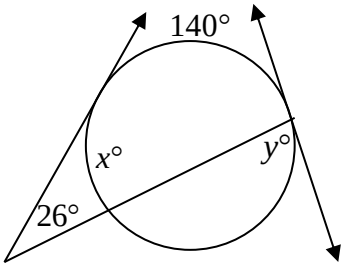
83. Solve for *a* and *b* in the diagram at the right.



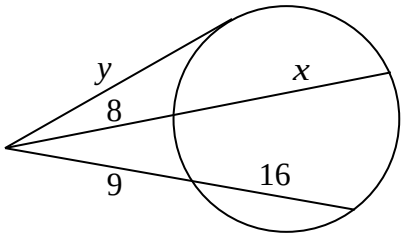
84. Solve for *a*, *b* and *c* in the diagram at the right. None of the segments is a diameter.



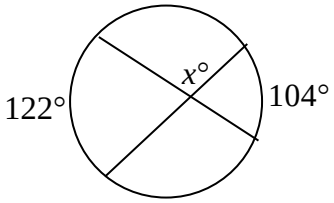
85. Solve for *x* and *y*.



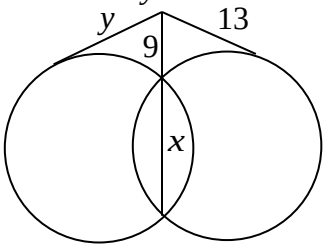
86. Solve for *x* and *y*.



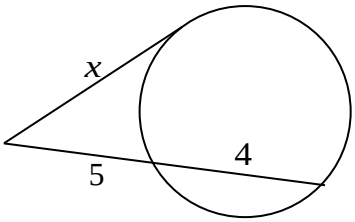
87. Solve for *x*.



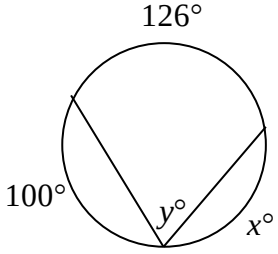
88. Solve for *x* and *y*.



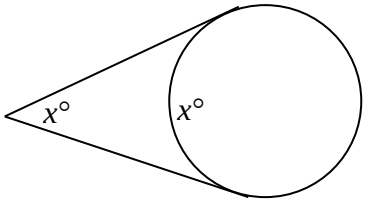
89. Solve for *x*.



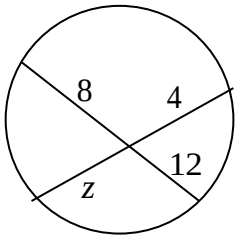
90. Solve for *x* and *y*.



91. In the figure at the right, what is the value of *x*?



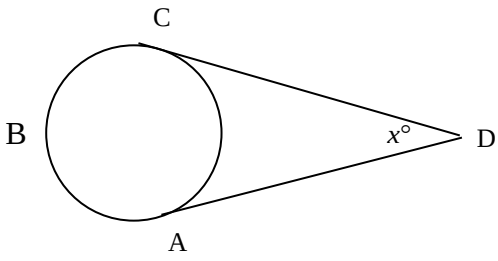
92. In the figure at the right, what is the value of *z*?



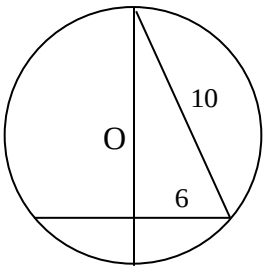
93. A circle has an equation $(x+2)^2+(y-8)^2=24$. Find (a) the coordinates of the center, (b) the radius and (c) the area of the circle.

94. Write the equation of the circle with its center at the point $(-3,6)$ and diameter 15.

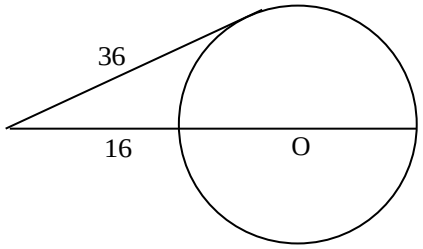
95. In the figure at the right, what is $mABC$ in terms of *x*?



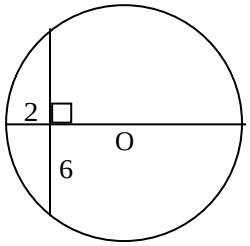
96. Find the diameter of circle O in the figure at the right. A line that appears to be tangent to the circle is a tangent.



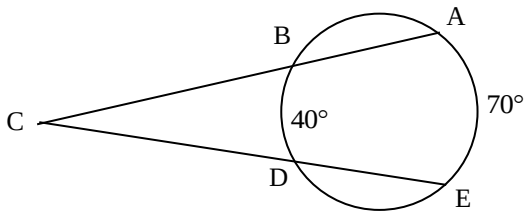
97. Find the diameter of circle O in the figure at the right. A line that appears to be tangent to the circle is a tangent.



98. Find the diameter of circle O in the figure at the right. A line that appears to be tangent to the circle is a tangent.



99. Find the measure of $\measuredangle C$ in the figure below.



100. Find the following measures in the circle below: $m\measuredangle B, m\measuredangle C, mBC$ and mAC.