

Circles:

1) Find each measure.

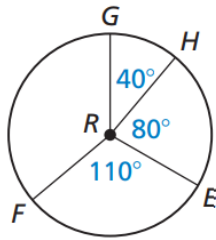
a) $m\widehat{GE} = \underline{\hspace{2cm}}^\circ$

b) $m\widehat{GEF} = \underline{\hspace{2cm}}^\circ$

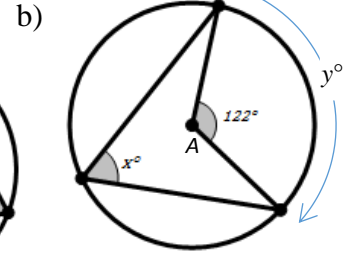
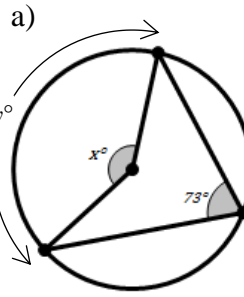
c) $m\widehat{GF} = \underline{\hspace{2cm}}^\circ$

d) $m\widehat{GFE} = \underline{\hspace{2cm}}^\circ$

e) $m\widehat{HF} = \underline{\hspace{2cm}}^\circ$ * careful!



2) Find the value of each variable.

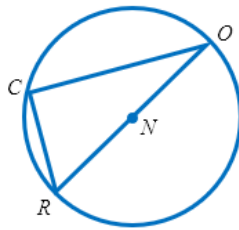


3) If \overline{RO} is a diameter then

$m\widehat{RO} = \underline{\hspace{2cm}}^\circ$ so

$m\angle C = \underline{\hspace{2cm}}^\circ$ and $\triangle COR$

is a _____ \triangle .



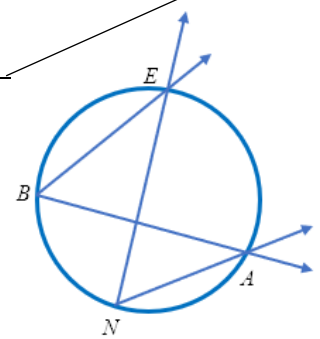
Theorem: A right \triangle is inscribed in a circle iff the hypotenuse is a _____ of the circle.

4) If $m\widehat{EA} = 94^\circ$ then

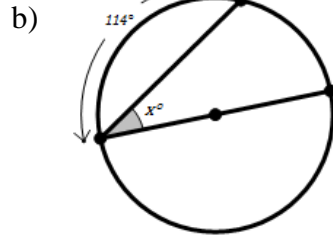
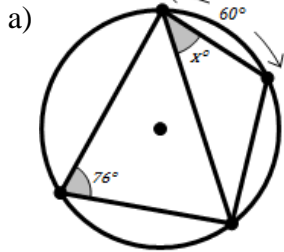
$m\angle B = \underline{\hspace{2cm}}$ and

$m\angle N = \underline{\hspace{2cm}}$

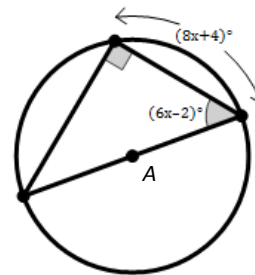
Theorem: If two inscribed angles intercept the same _____ then the angles are _____.



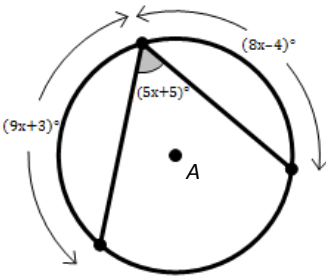
5) Find the value of x and y .



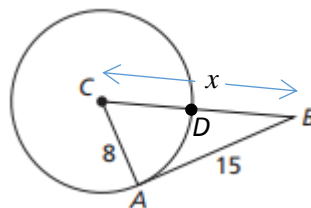
6) Find the value of x .



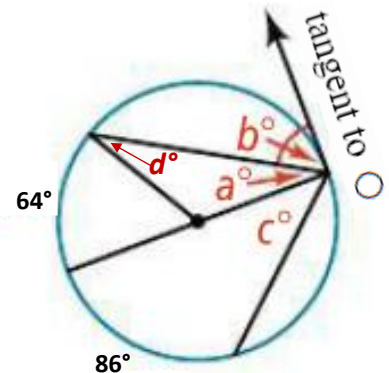
7) Write and solve an equation to find x .



8) \overline{AB} is tangent to the circle. Find x and the length of \overline{DB} . Remember that all radii in a circle are congruent.



9) $a = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$
 $c = \underline{\hspace{2cm}}$ $d = \underline{\hspace{2cm}}$



10) Graph each of the following equations:

a) $(x-11)^2 + (y-1)^2 = 25$
center: () radius = _____

b) $x^2 + y^2 = 16$
center: () radius = _____

c) $(x+12)^2 + (y-2)^2 = 9$
center: () radius = _____

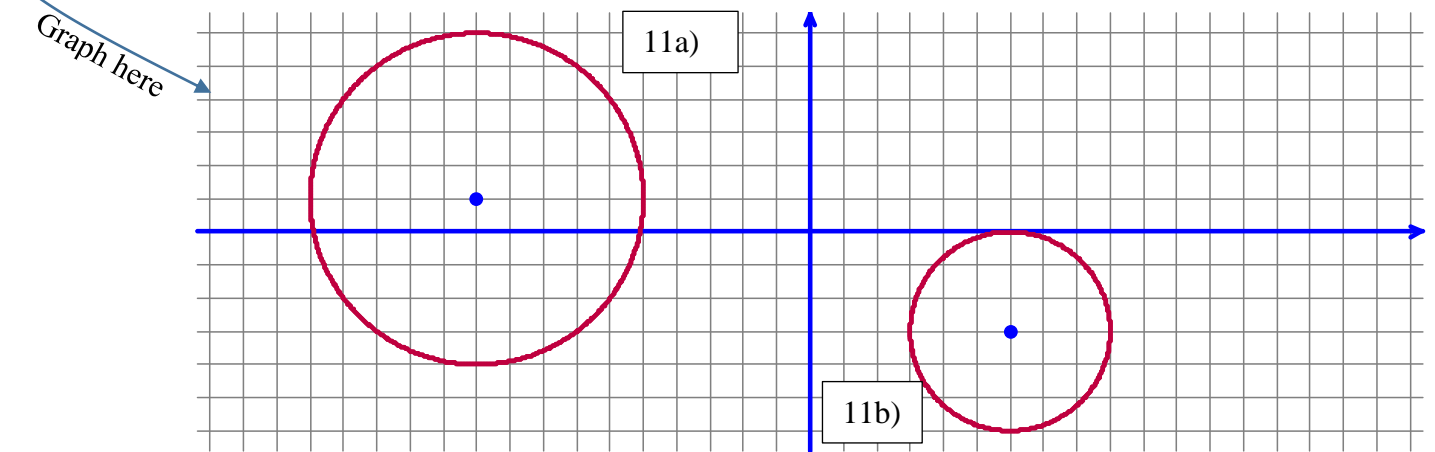
11) Write the equation of the circle shown in graph.

a) Center: () Radius: _____

Equation:

b) Center: () Radius: _____

Equation:



12) Change the equation to standard form by completing the square. State the center and radius of the circle.

$$x^2 + y^2 + 2x - 6y - 15 = 0$$

Center: ()

Radius: _____

13) Change the equation to standard form by completing the square. State the center and radius of the circle.

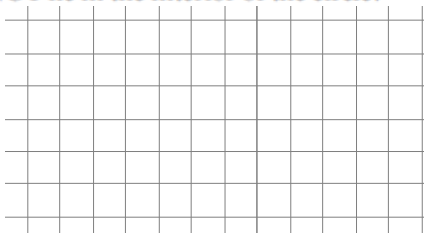
$$x^2 + y^2 - 12x - 10y + 57 = 0$$

Center: ()

Radius: _____

14) A circle in the xy -plane has equation $(x+3)^2 + (y-1)^2 = 25$. Which of the following points does NOT lie in the interior of the circle?

- A) $(-7, 3)$
- B) $(-3, 1)$
- C) $(0, 0)$
- D) $(3, 2)$



15) In the xy -plane, the graph of the equation below is a circle. Point P is on the circle and has coordinates $(10, -5)$. If \overline{PQ} is a diameter of the circle, what are the coordinates of point Q ?

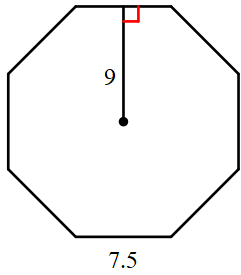
- A) $(2, -5)$ $(x-6)^2 + (y+5)^2 = 16$
- B) $(6, -1)$
- C) $(6, -5)$
- D) $(6, -9)$

16) Optional Extra Practice: Change to standard form. State center and radius. Use separate paper.

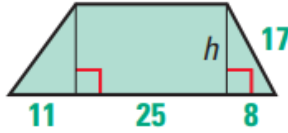
a) $x^2 + y^2 + 4x - 8y + 11 = 0$ b) $x^2 + y^2 - 6x + 5 = 0$ c) $x^2 + y^2 + 8y + 15 = 0$

Area, Volume and Surface Area:

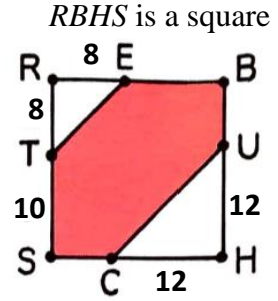
17) Find the area of the regular polygon.



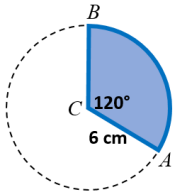
18) Find the area of the trapezoid.



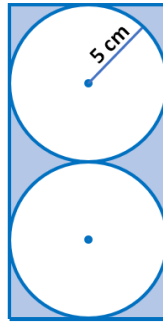
19) Find the shaded area.



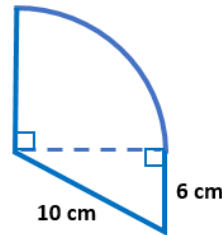
20) Find the shaded area.



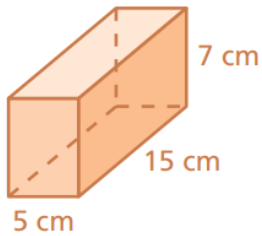
21) Find the shaded area.



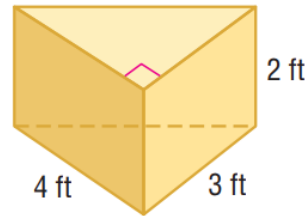
22) Find the area and perimeter:



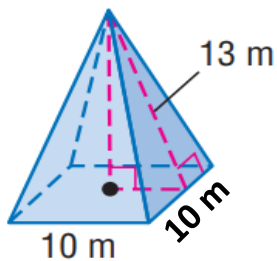
23) Find the surface area and volume:



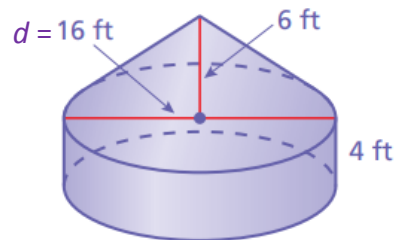
24) Find the volume and surface area.



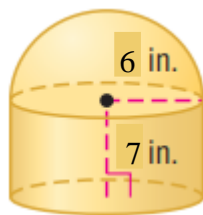
25) Find the volume and surface area.



26) Find the volume. Optional Challenge: Find the surface area.

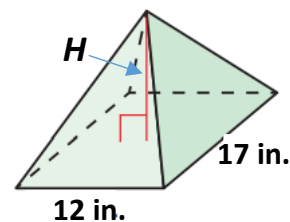


27) Find the volume. Optional Challenge: Find the surface area.

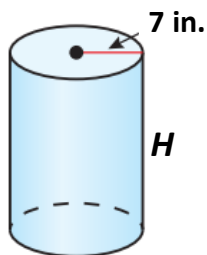


28) Find the value of H .

Volume = 748 in^3

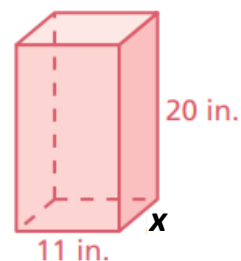


29) Find the value of H .



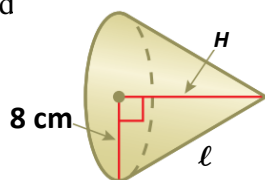
Surface Area = $294\pi \text{ in}^2$

30) Find the value of x .

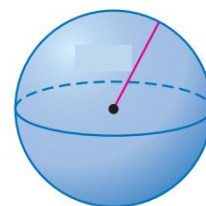


Surface Area = 936 in^2

31) The surface area of the cone is $200\pi \text{ cm}^2$. Find the value of ℓ then H and then the volume.



32) Find the radius and then the volume.



Surface Area = $81\pi \text{ in}^2$

Algebra Review:

33) Factor each;

a) $x^2 - 9x + 20$

b) $2x^2 - 5x - 12$

c) $4x^2 + 6x$

d) $x^2 - 25$

9. Simplify each expression by factoring and canceling common factors:

a) $\frac{x^2 - 9x + 20}{2x^2 - 5x - 12}$

b) $\frac{4x^2 + 6x}{2x^2 - 5x - 12}$

c) $\frac{x^2 - 9x + 20}{x^2 - 25}$