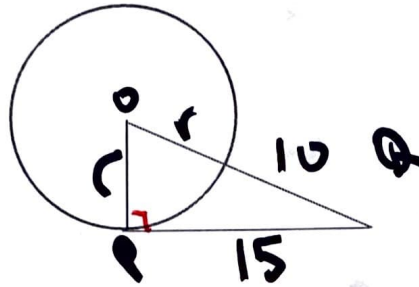


Key

Chapter 10 Online Big Ideas Test Review edit v.21

1. In the diagram, point P is a point of tangency. Find the radius r of circle O.



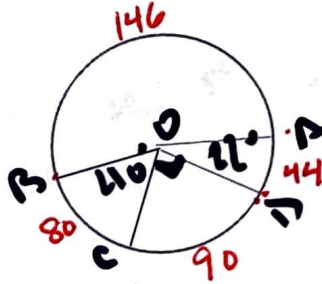
$$r^2 + 15^2 = (r+10)^2$$

$$r^2 + 225 = r^2 + 20r + 100$$

$$125 = 20r$$

$$\boxed{6.25 = r}$$

2. Find the measure of arc ABD

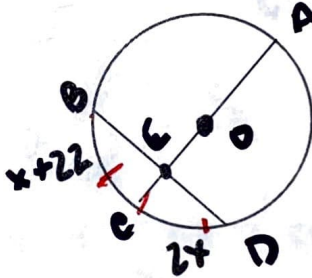


$$146 + 80 + 90 = \boxed{316^\circ}$$

3. Find the measure of arc BD

$$x + 22 = 2x$$

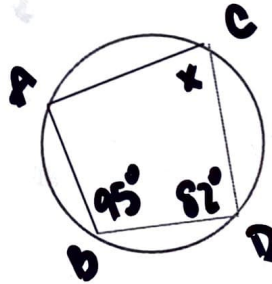
$$\boxed{22 = x}$$



4. Find the value of x .

$$95 + x = 180$$

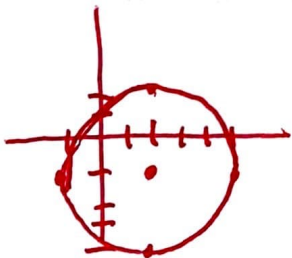
$$\boxed{x = 85}$$



5. Graph each circle:

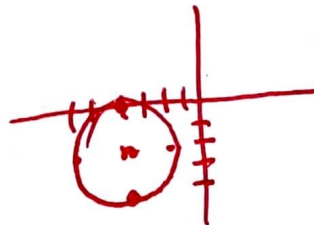
a) $(x-2)^2 + (y+1)^2 = 9$

$C(2, -1)$
 $r=3$



b) $(x+4)^2 + (y+2)^2 = 4$

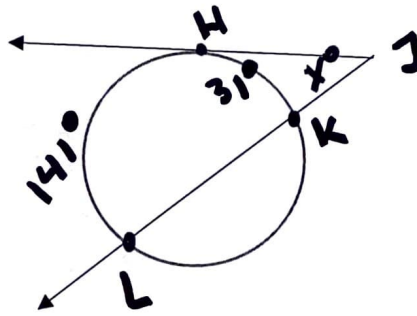
$C(-4, -2)$ $r=2$



6. Find the value of x.

$$x = \frac{1}{2}(141 - 31)$$

$$x = 55$$

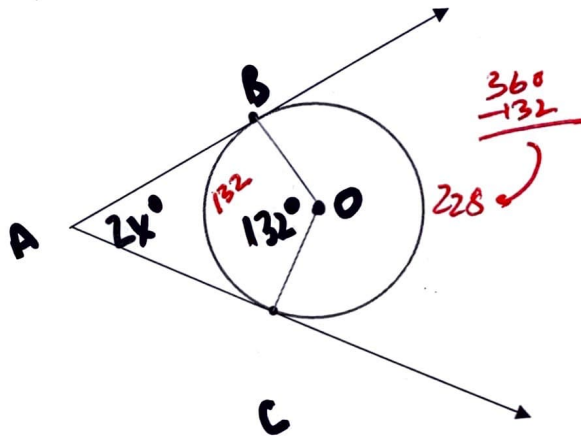


7. Find the value of x.

$$\frac{1}{2}(228 - 132) = 2x$$

$$48 = 2x$$

$$24 = x$$



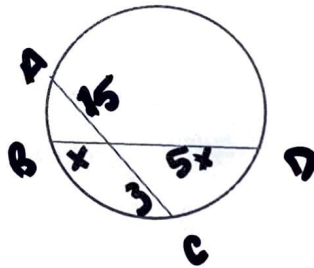
8. Find the value of x.

$$(15)(3) = x(5x)$$

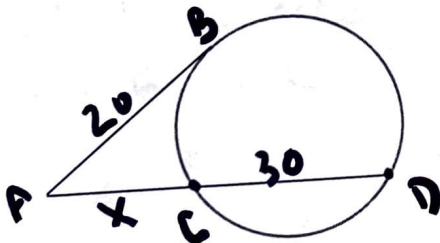
$$45 = 5x^2$$

$$9 = x^2$$

$$x = 3$$



9. Find the value of x.



$$20^2 = (x+30)(x)$$

$$400 = x^2 + 30x$$

$$0 = x^2 + 30x - 400$$

$$0 = (x-10)(x+40)$$

$$x = -40 \text{ or } 10$$

10. Does the point $(2, 2\sqrt{3})$ lie on the circle that is centered at the origin with a radius of 4?

$$(x-h)^2 + (y-k)^2 = r^2$$

$$x^2 + y^2 = 16$$

$$2^2 + (2\sqrt{3})^2 \stackrel{?}{=} 16$$

$$4 + 12 \stackrel{?}{=} 16$$

$$(h, k) = (0, 0) \quad r = 4$$

YES!

11. Solve for the radius of the circle.

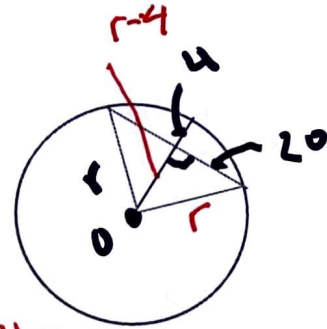
$$r^2 + (r-4)^2 = 20^2$$

$$r^2 + r^2 - 8r + 16 = 400$$

$$2r^2 - 8r - 384 = 0 \rightarrow r^2 - 4r - 192 = 0$$

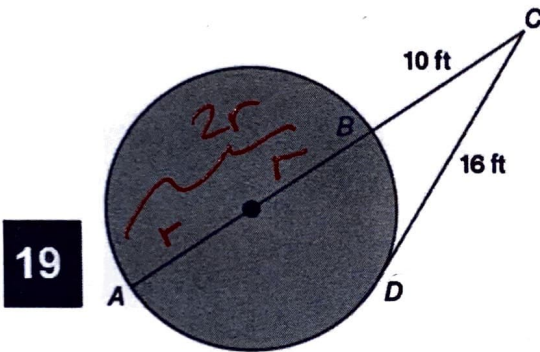
$$(r-16)(r+12) = 0$$

$$r = 16 \frac{1}{2} - 12$$



12. Know how to identify a radius, chord, diameter, secant, tangent, etc.

You stand outside of a swimming pool at point C. Calculate the radius of the swimming pool.



$$10 \cdot (10 + 2r) = 16^2$$

$$100 + 20r = 256$$

$$r = 7.8$$

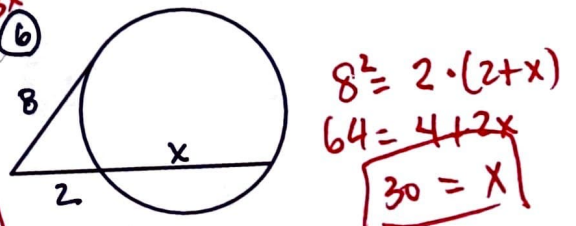
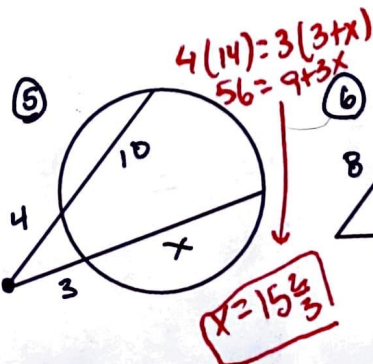
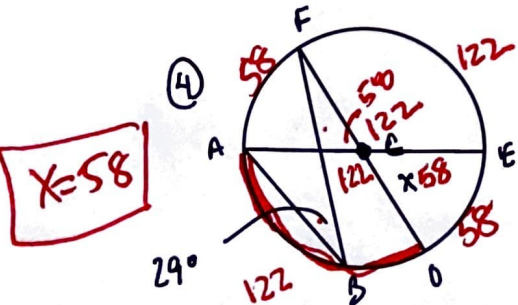
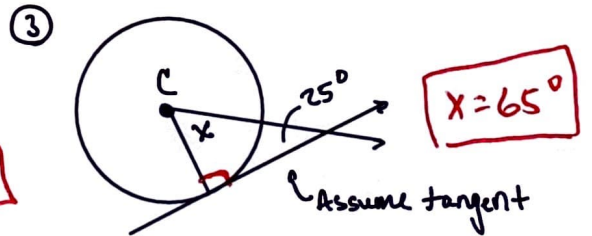
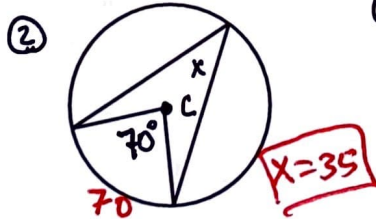
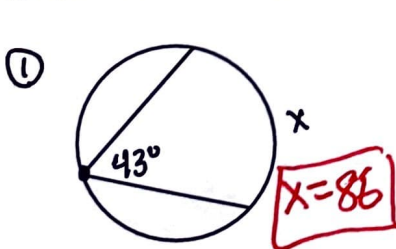
r = ft

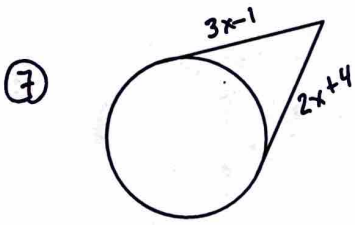
Correct answers:

1 7.8

Additional Practice

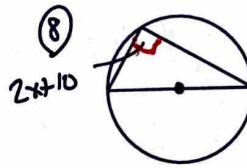
Solve for x (Assume C is the center):





$$3x-1=2x+4$$

$$x=5$$



$$2x+10=90$$

$$x=40$$