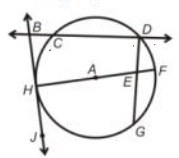


Topic 12 Review

Monday, April 18, 2022 11:25 AM

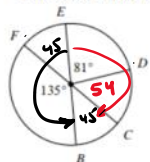
Math 2: Circles Test Review

1. Give the name that best describes each line or segment. Options include center, radius, diameter, chord, tangent line, or point of tangency.



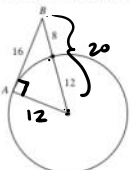
$\overline{CD}$: chord
A: center
 $\overline{HJ}$: Tangent
 $\overline{HF}$: diameter
 $\overline{AF}$: radius

2. $\overline{FC}$ and $\overline{EB}$ are diameters. Find the indicated measure.



$\angle EDC$: 45 $\angle FBC$: 135
 $\angle BDC$: 45 $\angle BFC$: 54
 $\angle BFE$: 180 $\angle BFD$: 261
 $\angle FDB$: 225 $\angle CFD$: 306

3. Is $\overline{AB}$ tangent to the circle? Explain.



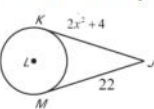
$$12^2 + 16^2 = 20^2$$

$$144 + 256 = 400$$

$$400 = 400$$

yes

4. Find the value of x.



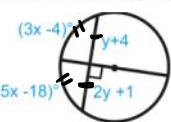
$$2x^2 + 4 = 22$$

$$2x^2 = 18$$

$$\sqrt{x^2} = \sqrt{9}$$

$$x = 3$$

5. Find the value of x and y.



$$y + 4 = 2y + 1$$

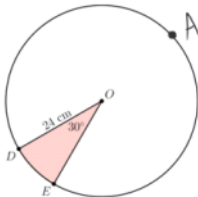
$$y = 3$$

$$3x - 4 = 5x - 18$$

$$\frac{14}{2} = \frac{2x}{2}$$

$$x = 7$$

12. Given the circle below



- A. What is the $m\widehat{DAE}$?

$$360 - 30 = 330$$

- B. What is the exact length of $\widehat{DE}$?

$$\frac{30}{360} 2\pi(21)$$

$$\widehat{DE} = 12.57$$

- C. What is the exact area of the orange sector?

$$\frac{30}{360} \pi(21)^2$$

$$150.80$$

13. In the circle below $\overline{AB} \cong \overline{CD}$. If $\overline{AB} = 15x - 2$ and $\overline{CD} = 10x + 23$, what is the value of x?

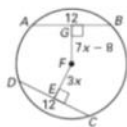


$$15x - 2 = 10x + 23$$

$$5x = 25$$

$$x = 5$$

6. Find the value of x.



$$7x - 8 = 3x$$

$$4x = 8$$

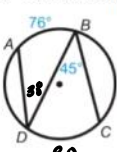
$$x = 2$$

7. Given $\overline{QS}$ a diameter, $\overline{QS} = 23$ and $\overline{TU} = 10$, what is $\overline{TR}$?



$$\overline{TR} = 20$$

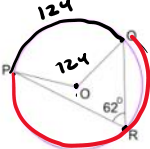
8. Find the indicated measure.



$$m\widehat{DC}: 90$$

$$m\angle ADB: 38$$

9. Find the indicated measure of Circle O



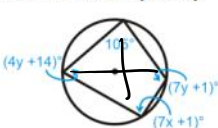
$$m\widehat{PQ}: 124$$

$$m\angle POQ: 124$$

$$m\widehat{PRQ}: 236$$

$$360 - 124$$

10. Find the value of x and y



$$4y + 14 + 7y + 1 = 180$$

$$11y + 15 = 180$$

$$11y = 165$$

$$y = 15$$

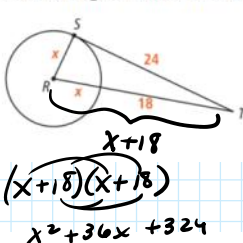
$$105 + 7x + 1 = 180$$

$$7x + 106 = 180$$

$$\frac{7x}{7} = \frac{74}{7}$$

$$x = \frac{74}{7}$$

11. $\overline{ST}$ is tangent to the circle. What is the radius?



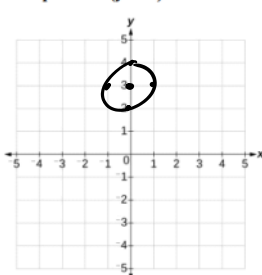
$$x^2 + 24^2 = (x + 18)^2$$

$$x^2 + 576 = x^2 + 36x + 324$$

$$252 = 36x$$

$$x = 7$$

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



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

$$c(h, k)$$

$$c(0, 3) \quad r = 1$$

17. What is the circumference of a circle with a radius of 12 ft?

$$C = 2\pi(12)$$

$$= 24\pi$$

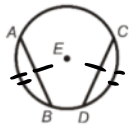
$$= 75.40$$

$$C = 2\pi r$$

18. What is the value of p?



$$P. 10543 = \frac{36}{p} \cdot P$$



$$15x - 2 = 10x + 23$$

$$5x = 25$$

$$x = 5$$

14. Given a circle has an area of $121\pi \text{ cm}^2$, what is the diameter? Include units in your answer.

$$\pi r^2 = 121\pi$$

$$\sqrt{r^2} = \sqrt{121}$$

$$r = 11$$

$$d = 22$$

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

15. A. Write the standard equation of the circle given the center is (9, 10) and passes through the point (9, 3)

$$(x-9)^2 + (y-10)^2 = r^2$$

$$(9-9)^2 + (3-10)^2 = r^2$$

$$0 + 49 = r^2$$

$$(x-9)^2 + (y-10)^2 = 49$$

- B. Does the point (2, 11) lie on the circle? Yes or no.

$$(2-9)^2 + (11-10)^2 = 49$$

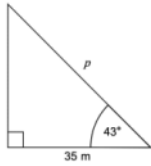
$$(-7)^2 + (1)^2 = 49$$

$$49 + 1 = 49$$

$$50 \neq 49$$

No

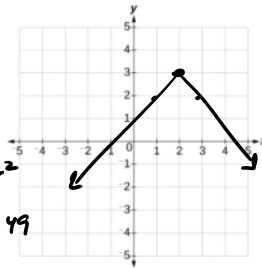
18. What is the value of p?



$$p \cdot \cos 43 = \frac{36}{p} \cdot p$$

$$p = \frac{36}{\cos 43} = 49.22$$

19. Graph $y = -|x - 2| + 3$



$$v(2, 3)$$

$$a = -1$$

20. Factor $x^2 + 24x - 25$.

$$(x + 25)(x - 1)$$