

Warm Up 35

1. diameter
2. $A = 78.54 \text{ cm}^2$,
 $C = 31.42 \text{ cm}$
3. 3.57 units
4. 39.27 in^2

Lesson Practice 35

- a. 26.18 miles
- b. 17.18 in^2
- c. 9.41 cm
- d. 4.28 miles

Practice 35

1. The formula finds the portion of the circle that is contained in the arc by multiplying by a factor of $\frac{m^\circ}{360^\circ}$.
2. $(-8, 6)$
3. $\angle B \cong \angle E, \angle C \cong \angle F, \angle D \cong \angle G, \overline{BC} \cong \overline{EF}, \overline{CD} \cong \overline{FG},$
 $\overline{BD} \cong \overline{EG}$
4. Therefore, I will restart it.
5. $(0, 0)$
6. $x = 93^\circ, y = 52^\circ, z = 35^\circ$
7. B
8. a. If a triangle has exactly two acute angles, then it is obtuse.
b. statement: yes; converse: no
9. $TR = 26, QS = 22$
10. 120°
11. $x + 3 = \frac{4x + 5}{2}$ Given
 $2(x + 3) = \left(\frac{4x + 5}{2}\right)$ Multiplication Property of Equality
 $2x + 6 = 4x + 5$ Distributive Property
 $2x + 6 - 5 = 4x + 5 - 5$ Subtraction Property of Equality
 $2x + 1 = 4x$ Simplify.
 $2x + 1 - 2x = 4x - 2x$ Subtraction Property of Equality
 $1 = 2x$ Simplify.

$$\frac{1}{2} = \frac{2x}{2}$$

$$\frac{1}{2} = x$$

Division Property of Equality
Simplify.

12. approximately 7.5 ft, no

13.

Statements	Justifications
1. $\widehat{JK} \cong \widehat{HI}$	1. Given
2. $\widehat{HI} = 2\pi r \left(\frac{m\angle 1}{360^\circ} \right)$ and $\widehat{JK} = 2\pi r \left(\frac{m\angle 2}{360^\circ} \right)$	2. Formula for length of an arc
3. $m\angle 1 = 360^\circ \frac{\widehat{HI}}{2\pi r}$ and $m\angle 2 = 360^\circ \frac{\widehat{JK}}{2\pi r}$	3. Solve for $m\angle 1$ and $m\angle 2$.
4. $m\angle 1 = m\angle 2$	4. Transitive Property of Equality
5. $\angle 1 \cong \angle 2$	5. Definition of angle congruence

14. no

15. 3.5 in^2

16.

Statements	Reasons
1. $\angle KLM$ and $\angle NML$ are right angles.	1. Given
2. $\angle KLM \cong \angle NML$	2. Right Angle Theorem
3. $m\angle KLM = m\angle NML$	3. Definition of congruent angles
4. $m\angle KLM = m\angle 1 + m\angle 2$, $m\angle NML = m\angle 3 + m\angle 4$	4. Angle Addition Postulate
5. $m\angle 1 + m\angle 2$ $= m\angle 3 + m\angle 4$	5. Substitution Property of Equality
6. $\angle 2 \cong \angle 3$	6. Given
7. $m\angle 2 = m\angle 3$	7. Definition of congruent angles
8. $m\angle 1 + m\angle 2$ $= m\angle 2 + m\angle 4$	8. Substitution Property of Equality
9. $m\angle 1 = m\angle 4$	9. Simplify
10. $\angle 1 \cong \angle 4$	10. Definition of congruent angles

17. Marc is incorrect. He used the formula for arc length instead of the formula for sector area.

18. If I lose my driver's license, then I will have to go to the DMV.

19. 135°

20. 83 units

21. A triangle is acute or has exactly two acute angles; true

22. 9 cm
23. false; sample: $x = 2$
24. 56 square units
25. *If a triangle has two acute angles, then it is a right triangle.*
26. 38.2 cm
27. acute
28. No, the actual area is about 153.94 in^2 .
29. sample: 10, 24, 26; 20, 48, 52
30. $m\angle A = 135^\circ$,
 $m\angle C = 135^\circ$,
 $m\angle B = 45^\circ$, $m\angle D = 45^\circ$