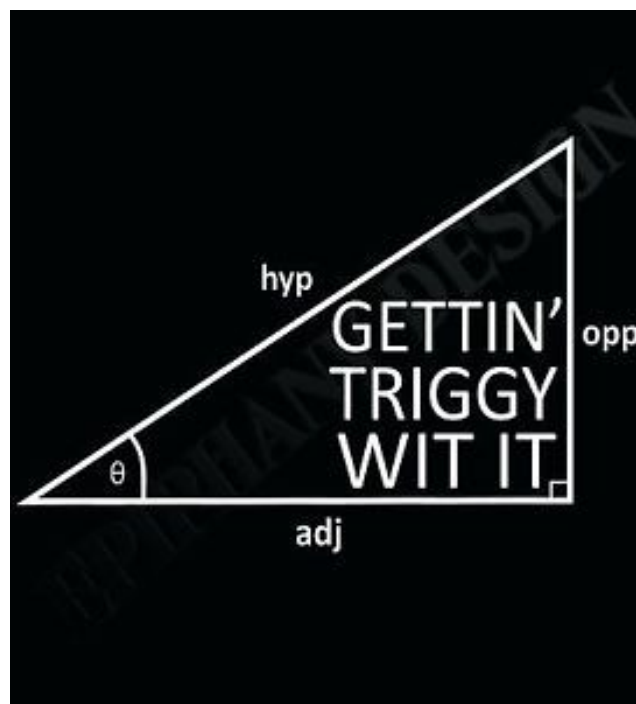


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FOM 3

Unit 6: Circles and Trig

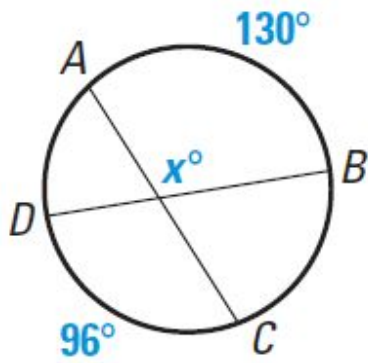


Date	Topic	Homework
November 14	<ul style="list-style-type: none"> • Arcs and angles of circles 	worksheet 6.1
November 15	<ul style="list-style-type: none"> • Lengths with circles 	worksheet 6.2
November 16	<ul style="list-style-type: none"> • Equation of a circle 	worksheet 6.3
November 17	<ul style="list-style-type: none"> • Equation of a circle using completing the square 	worksheet 6.4
November 20	<ul style="list-style-type: none"> • Right triangle trig 	worksheet 6.5
November 21	<ul style="list-style-type: none"> • Quiz!! 	
November 22 – 24	<ul style="list-style-type: none"> • Thanksgiving Break 	
November 27	<ul style="list-style-type: none"> • Angles in degrees 	worksheet 6.6
November 28	<ul style="list-style-type: none"> • Angles in radians 	worksheet 6.7
November 29	<ul style="list-style-type: none"> • Arc length and area of a sector 	worksheet 6.8
November 30	<ul style="list-style-type: none"> • Quiz!! • Use the unit circle to determine sine, cosine, and tangent 	worksheet 6.9
December 1	<ul style="list-style-type: none"> • Amplitude, period, frequency, and vertical shift of sine and cosine 	worksheet 6.10
December 4	<ul style="list-style-type: none"> • Review for test 	Circles and Trig Review
December 5	<ul style="list-style-type: none"> • Test!! 	

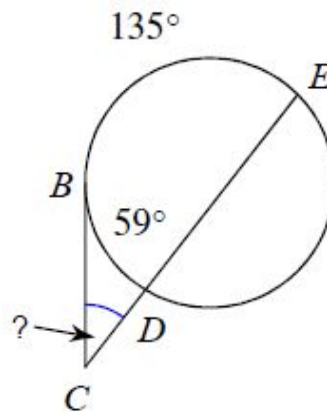
6.1 - Arcs and Angles Formed by Secants, Tangents, and Chord

Determine the value of x .

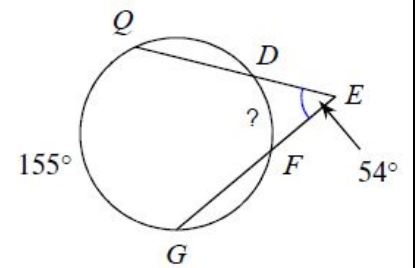
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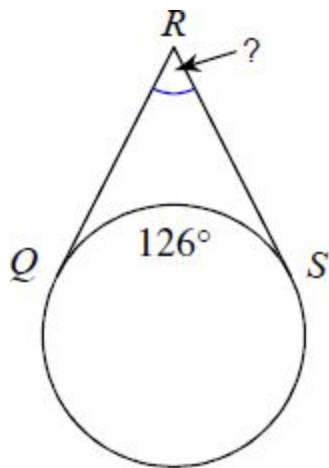
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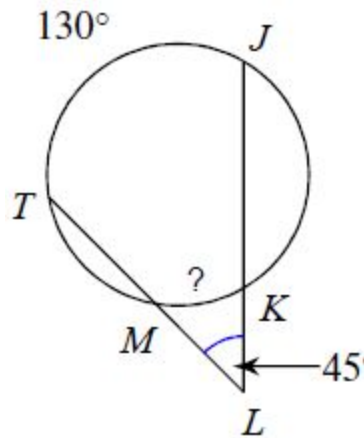
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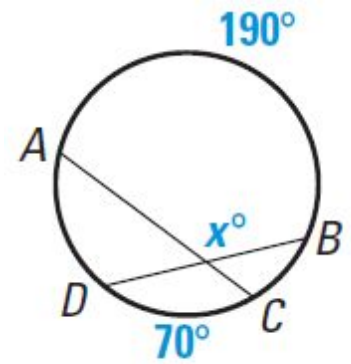
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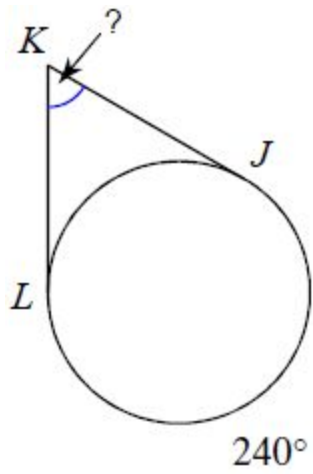
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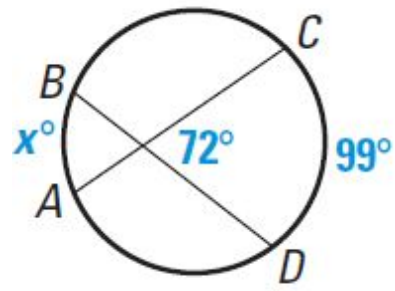
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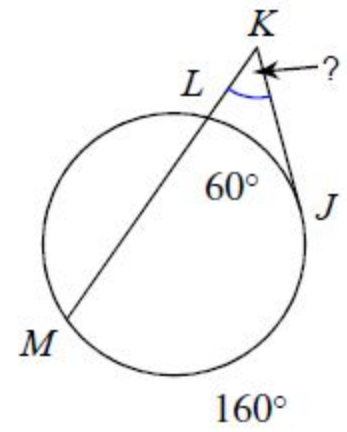
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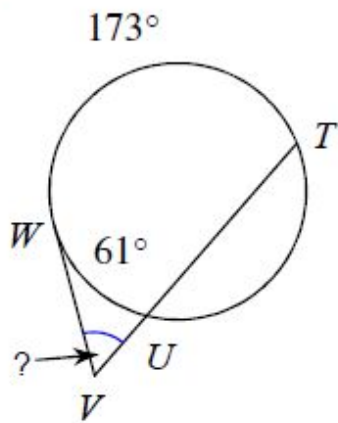
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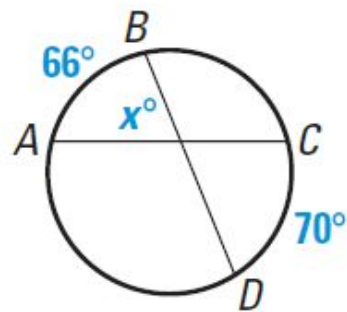
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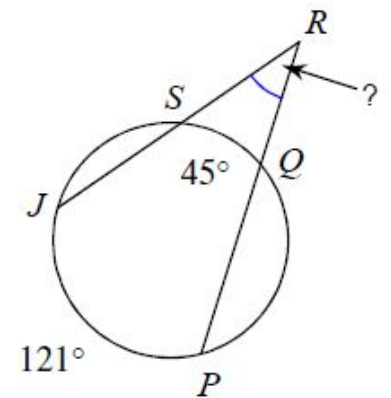
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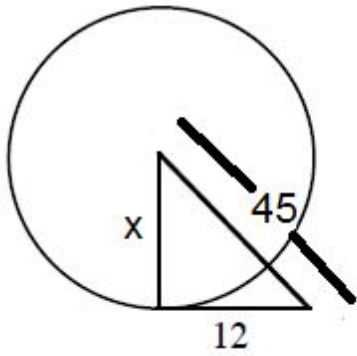
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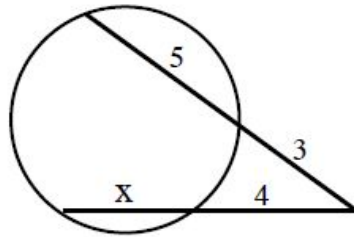
6.2 - Lengths with Secants, Tangents, Chords, and Radii

Determine the value of x .

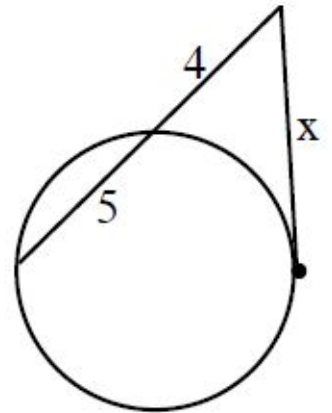
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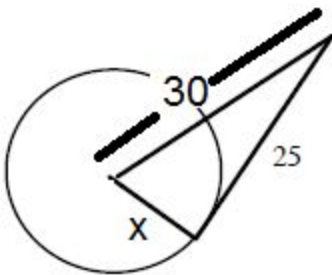
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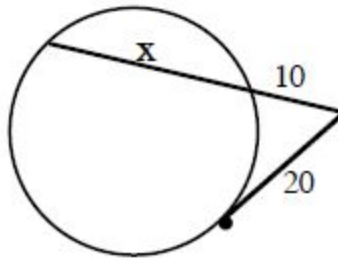
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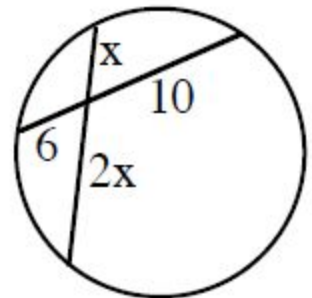
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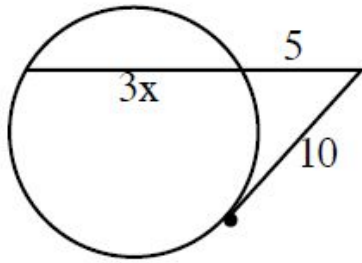
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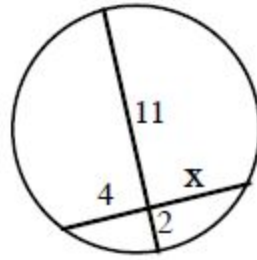
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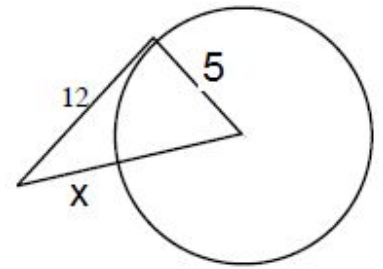
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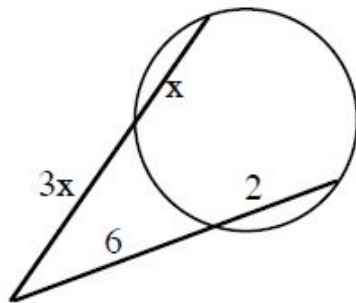
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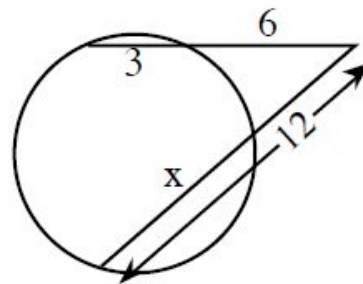
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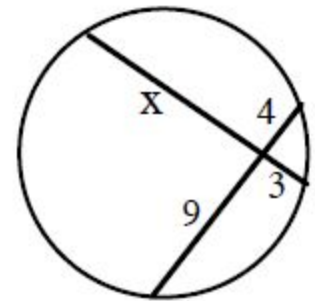
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12



6.3 - Equation of a Circle

Write the equation of the circle with the given information.

1. center: $(4, -8)$
radius: 5

2. center: $(-3, -2)$
radius: 2

3. center: $(5, 10)$
radius: 4

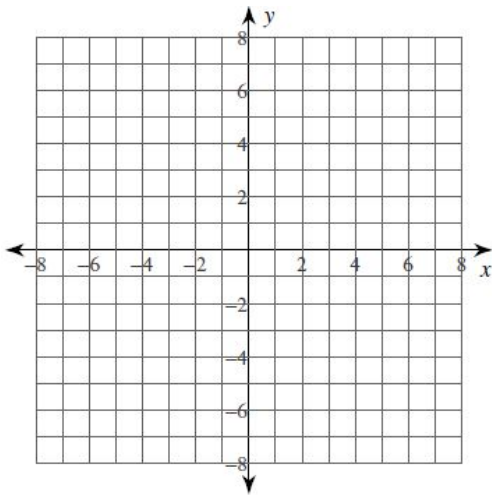
4. center: origin
radius: 12

5. center: $(11, -8)$
passes through $(4, -3)$

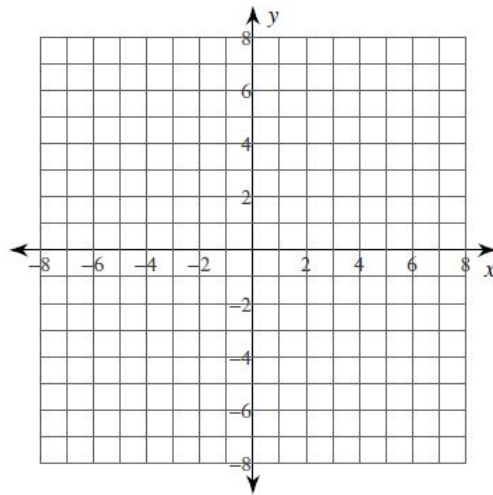
6. center: $(-5, 12)$
passes through origin

Determine the center and radius of each circle. Then graph the circle.

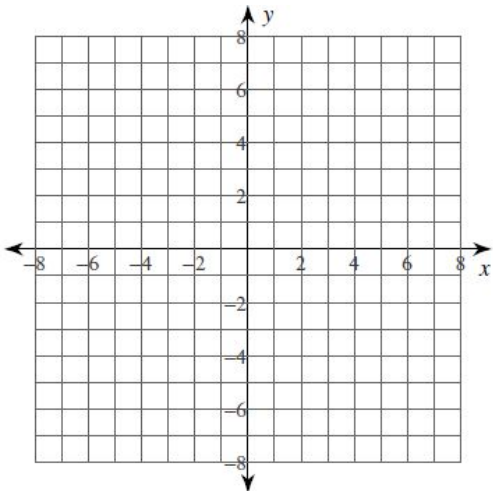
7. Graph: $(x - 1)^2 + (y + 3)^2 = 4$



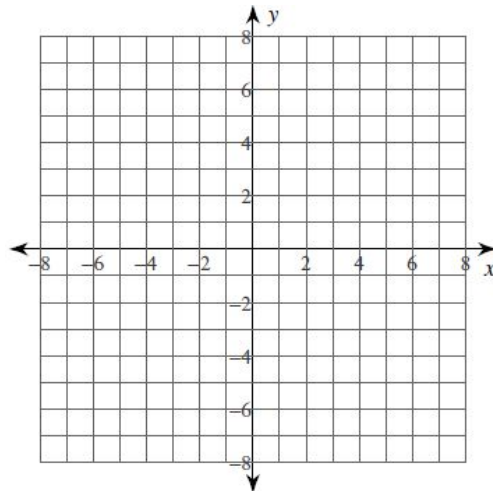
8. Graph: $(x + 2)^2 + (y - 1)^2 = 16$



9. Graph: $(x - 1)^2 + (y - 4)^2 = 9$



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



6.4 - Equation of a Circle with Completing the Square

Determine the equation of the circle in standard form. Then determine the center and radius of the circle.

1. $x^2 + y^2 + 4x - 16y + 52 = 0$

2. $x^2 + y^2 + 2x + 18y + 1 = 0$

3. $x^2 + y^2 - 14x - 2y - 50 = 0$

4. $x^2 + y^2 - 10x + 10y + 48 = 0$

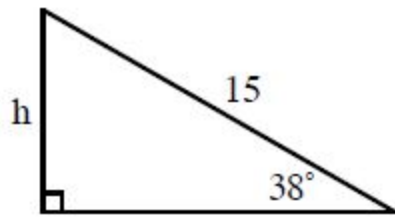
5. $x^2 + y^2 + 18x + 17 = 0$

6. $x^2 + y^2 + 6x - 12y + 18 = 0$

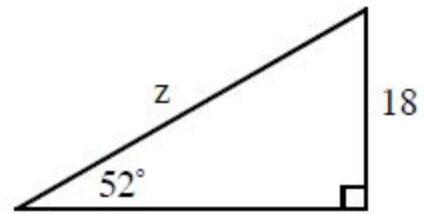
6.5 - Right Triangle Trig

Solve for x .

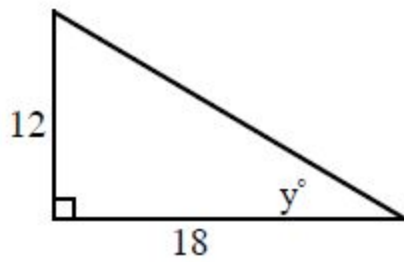
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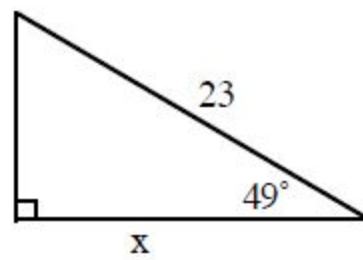
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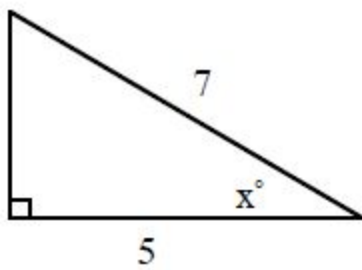
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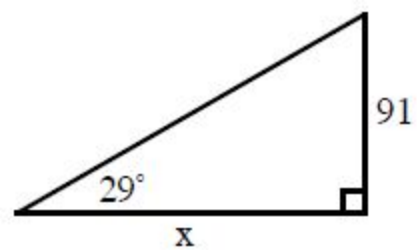
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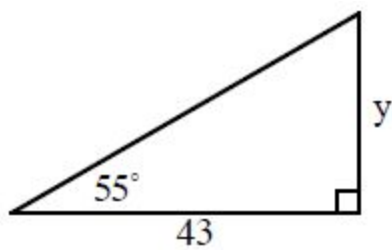
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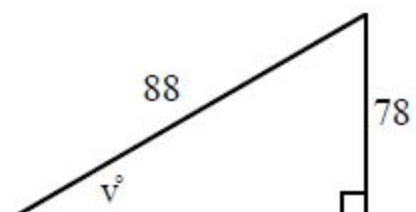
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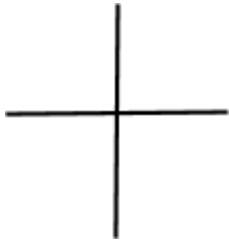
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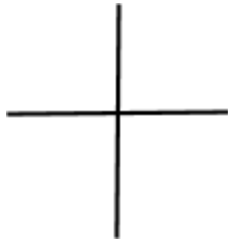
6.6 - Angles and Their Measures (Degrees)

Draw each angle in standard position.

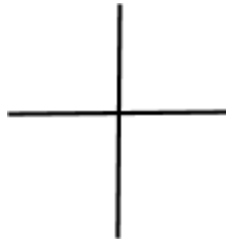
1. 120°



2. -240°



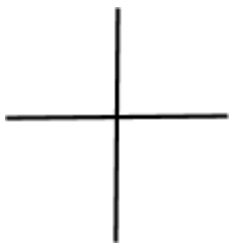
3. 550°



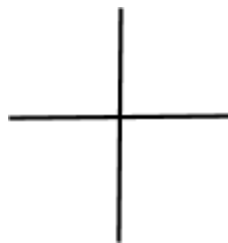
4. -270°



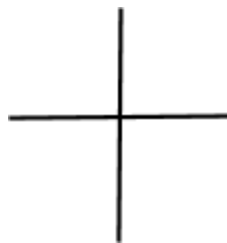
5. 300°



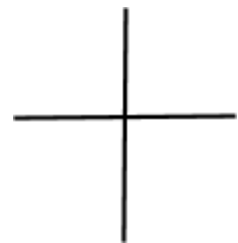
6. 40°



7. -400°



8. -100°



Find one positive and one negative coterminal angle that corresponds to the given angle.

9. 415°

10. -160°

11. -40°

12. 55°

Find the complement and supplement of the given angle.

13. 85°

14. 93°

15. 40°

16. 57°

6.7 - Angles and Their Measures (Radians)

Convert angle in degrees to radians.

1. 18°

2. 150°

3. 330°

4. -270°

Convert each angle in radians to degrees.

5. $\frac{\pi}{9}$

6. $\frac{3\pi}{4}$

7. $\frac{11\pi}{6}$

8. $-\frac{25\pi}{18}$

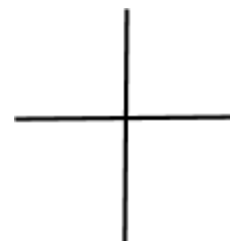
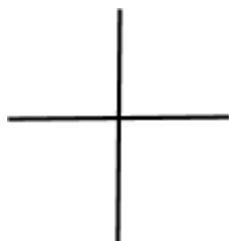
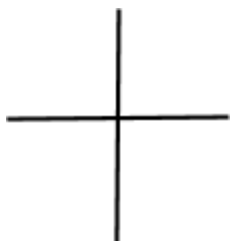
Draw each angle in standard position.

9. $\frac{5\pi}{6}$

10. $-\frac{\pi}{4}$

11. $\frac{10\pi}{3}$

12. $-\frac{7\pi}{6}$

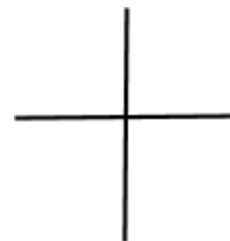
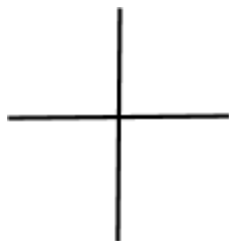
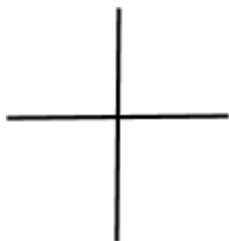


13. π

14. $-\frac{2\pi}{3}$

15. $-\frac{7\pi}{3}$

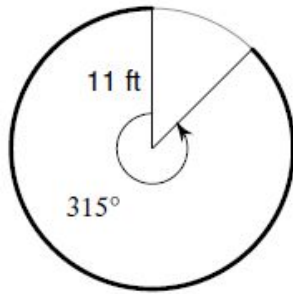
16. $\frac{11\pi}{6}$



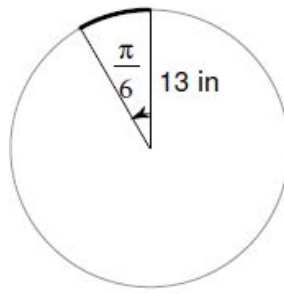
6.8 - Arc Length and Area of a Sector

Determine the arc length and area of a sector for each.

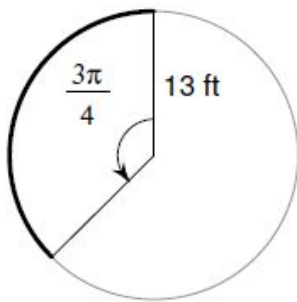
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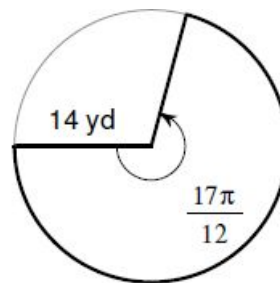
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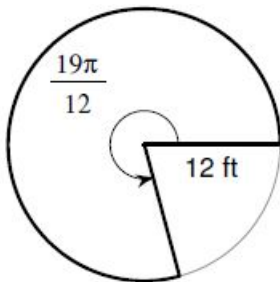
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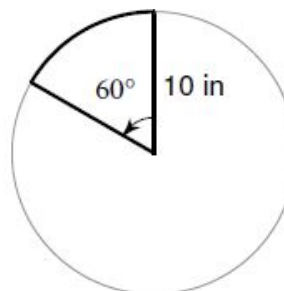
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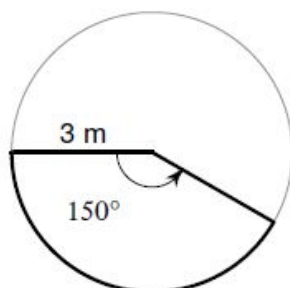
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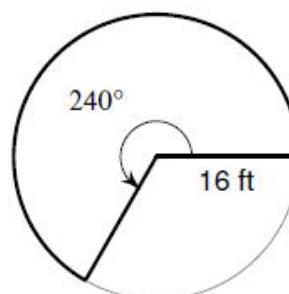
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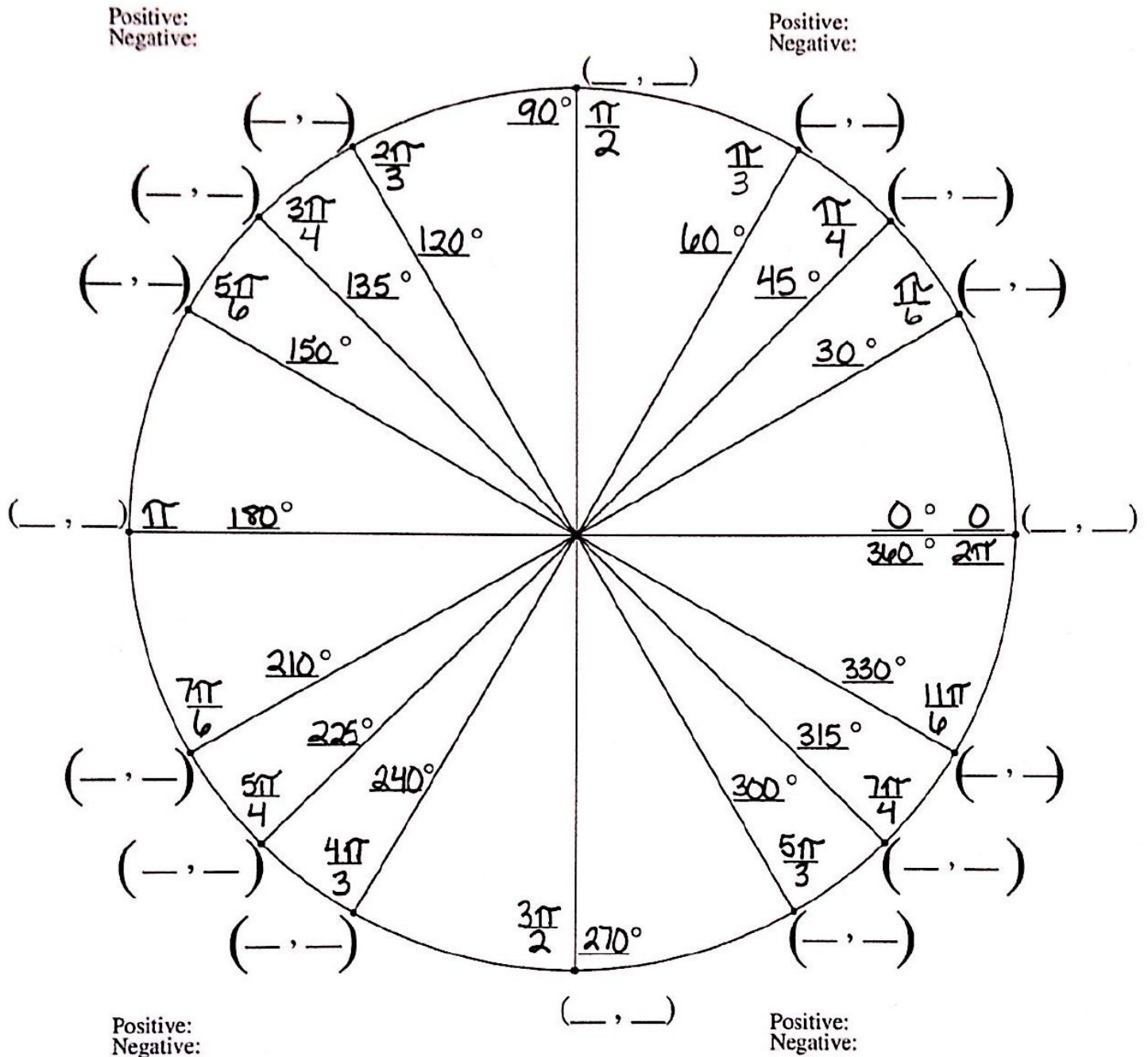
8.



6.9 - Exact Values of Sine, Cosine, and Tangent

Fill in the blank spaces on the unit circle.

Fill in The Unit Circle



Use the unit circle to determine the exact value of each trig expression.

1. $\sin 45^\circ$

2. $\cos \frac{3\pi}{4}$

3. $\sin \frac{8\pi}{3}$

4. $\tan 60^\circ$

5. $\sin -210^\circ$

6. $\tan \pi$

7. $\cos 570^\circ$

8. $\cos 0$

9. $\sin 270^\circ$

10. $\sin -3\pi$

11. $\tan 495^\circ$

12. $\cos -90^\circ$

13. $\tan -\frac{\pi}{6}$

14. $\sin \frac{7\pi}{6}$

15. $\sin -855^\circ$

16. $\cos 240^\circ$

17. $\tan \frac{4\pi}{3}$

18. $\cos -\frac{\pi}{3}$

6.10 - Equations of Sine and Cosine Worksheet

Determine the amplitude, period, frequency, vertical shift of each sine/cosine function.

	Amplitude	Period	Frequency	Vertical Shift
1. $y = -4\cos 4x + 7$				
2. $y = 6\sin \frac{1}{3}x - 4$				
3. $y = 7\sin x + 2$				
4. $y = \frac{1}{2}\cos \frac{4}{3}x$				
5. $y = -2\cos 8x - 4$				
6. $y = -\sin 3x + 1$				

7) Given an amplitude of 7, a period of 4π , and a vertical shift down 3 units, write the equation of the sine function.

8) Given an amplitude of 3, a frequency of $\frac{1}{\pi}$, and a vertical shift up 7 units, write the equation of the cosine function.

9) Given an amplitude of 74, a period of $\frac{\pi}{46}$, and a vertical shift up 81 units, write the equation of the sine function.