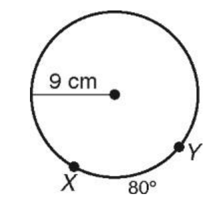
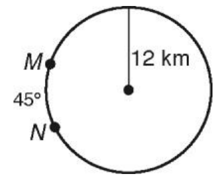
16.2-17.1 Show all work, correct answers, and fix work for credit. Name________________________

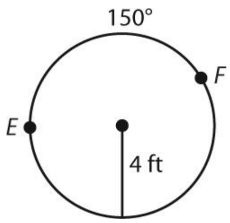
16.1 Calculate the length of the arc. Give answer in terms of π and rounded to the nearest hundredth.

1. 

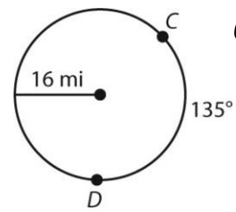
$\widehat{XY}$______________________

2. 

$\widehat{MN}$____________________

3. 

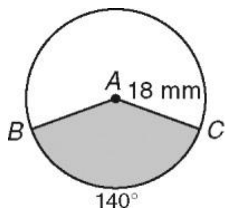
$\widehat{EF}$______________________

4. 

$\widehat{CD}$______________________

16.3 Calculate the area of the sector. Give answers in terms of π and rounded to the nearest hundredth**.**

5. sector BAC



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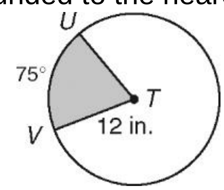
6. sector UTV



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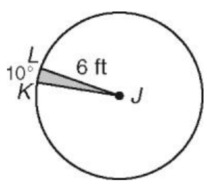
7. sector KJL



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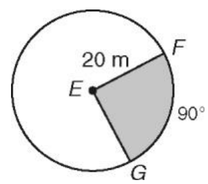
8. sector FEG



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17.1 Write the radius and center of each circle.

1. $(x-2)^2 + (y-5)^2 = 36$ $r =$ _____ center = (,) 2. $x^2 + y^2 = 25$ $r =$ _____ center = (,)

3. $(x-8)^2 + (y+3)^2 = 9$ $r =$ _____ center = (,) 4. $x^2 + y^2 = 49$ $r =$ _____ center = (,)

Write the equation of each circle.

5. Circle L with center $L(4, -3)$ and radius 5

____

6. Circle A centered at the origin with radius 6

____

7. Circle D with center $D(3, 3)$ and radius 2

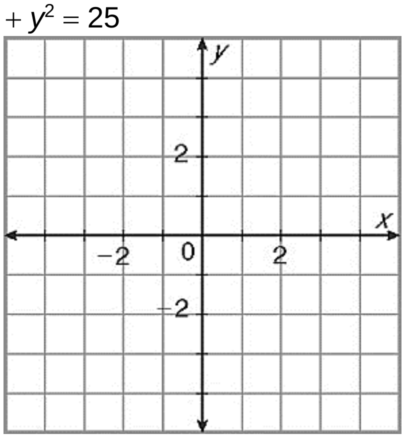
____

8. Circle M with center $M(0, -2)$ and radius 9

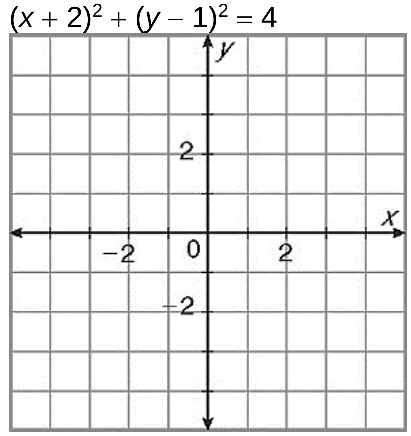
____

Graph each equation. Use the radius to plot four points around the center that lie on the circle.

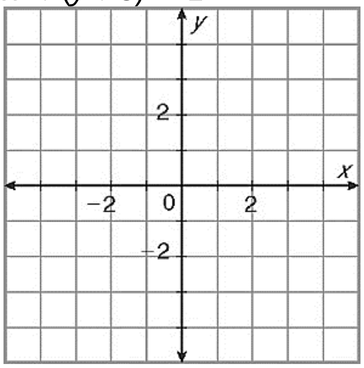
9. $x^2 + y^2 = 25$



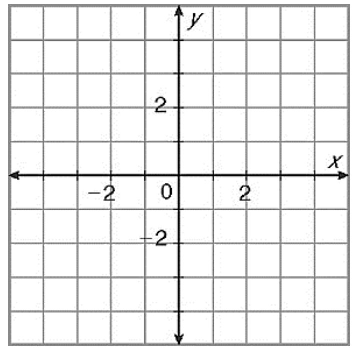
10. $(x+2)^2 + (y-1)^2 = 4$



11. $x^2 + (y + 3)^2 = 1$



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



Fill in the missing numbers to complete the square for the equation of the circle.
Then rewrite the equation and find the radius and the center.

13. $x^2 + 6x +$ _______ $+ y^2 + 8y +$ _______ $= 11 +$ _______ $+$ _______

(+)^2 + (+)^2 = radius is _____ center is (,)

14. $x^2 + 2x +$ _______ $+ y^2 + 4y +$ _______ $= 59 +$ _______ $+$ _______

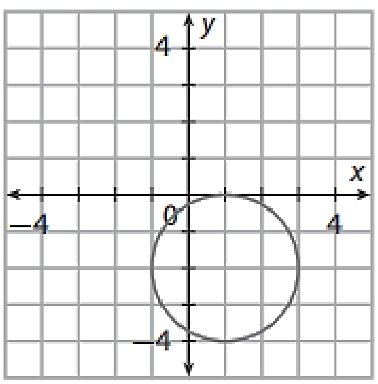
(+)^2 + (+)^2 = radius is _____ center is (,)

15. $x^2 + 4x +$ _______ $+ y^2 + 10y +$ _______ $= 20 +$ _______ $+$ _______

(+)^2 + (+)^2 = radius is _____ center is (,)

Write the equation of each circle.

16.



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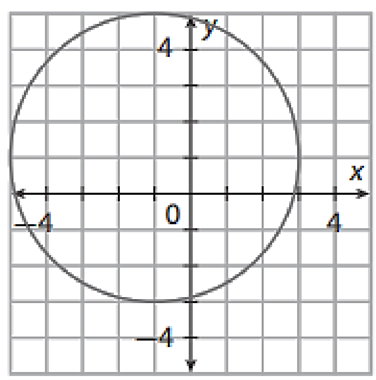
17.



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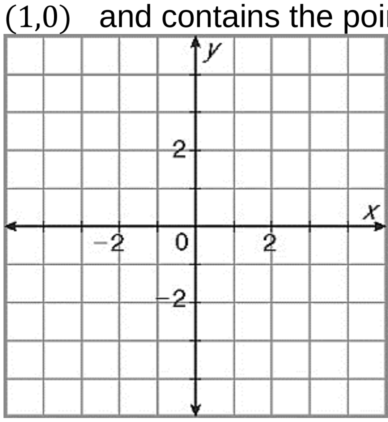
18. Prove or disprove that the point $(4, -4)$ lies on the circle that is centered at $(1,0)$ and contains the point $(1,5)$.



19. Prove or disprove that the point $(1, \sqrt{3})$ lies on the circle that is centered at the origin and contains the point $(0,2)$.