| A13.3 Area \& Length of Sectors | Name |
| :---: | :---: |
| Radian Key | 1. <br> Write the approximate radian measure for each letter. |
| 2. Draw the route of the following angle to its ending spot is $120^{\circ}$. <br> What is the approximate radian measure here: <br> The length of the arc from 0 to $120^{\circ}$ if the radius is 5 inches. <br> The area of the sector from 0 to $120^{\circ}$ if the radius is 5 inches. | 3. Draw the route of the following angle to its ending spot is $175^{\circ}$. <br> What is the approximate radian measure here: <br> The length of the arc from 0 to $175^{\circ}$ if the radius is 3 inches. <br> The area of the sector from 0 to $175^{\circ}$ if the radius is 3 inches. |

4. Draw the route of the following angle to its ending spot is $345^{\circ}$.


What is the approximate radian measure here:

The length of the arc from 0 to $345^{\circ}$ if the radius is 4 inches.

The area of the sector from 0 to $345^{\circ}$ if the radius is 4 inches.
5. Draw the route of the following angle to its ending spot is $60^{\circ}$.


What is the approximate radian measure here:

The length of the arc from 0 to $60^{\circ}$ if the radius is 6 cm .

The area of the sector from 0 to $60^{\circ}$ if the radius is 6 cm .
7. The flagpole is 10 feet tall and the shadow is 4 feet


If the shadow of the tree is 3 feet, how tall is the
4. Draw the route of the following angle to its ending spot is $225^{\circ}$.


What is the approximate radian measure here:

The length of the arc from 0 to $225^{\circ}$ if the radius is 8 cm .

The area of the sector from 0 to $225^{\circ}$ if the radius is 8 cm .
6. Find the lengths of sides $B C$ and $A B$.

8. Find the center and radius of the circle. $x^{2}+12 x+y^{2}-10 x=-57$

Center Radius Form is:
$(x \quad)^{2}+(y \quad)^{2}=$

Center ( , ) radius = $\qquad$

## tree?

If the shadow of the building is 12 feet, how tall is the building?

| 9. A circle has a center at $(7,-2)$ and goes through the point (8,2). Use the pythagorean theorem to find the radius, and then write the equation of the circle. | 10. Take the circle $x^{2}+y^{2}=64$ Move it left 3 and up 4 and dilate it by a factor of $1 / 4$. Write the equation of the new circle. |
| :---: | :---: |
| 11. Given the Points $A(-11,0)$ and $B(4,10)$ find the point $C$ that divides the segment in a 2:3 ratio. | 12. Solve for x . |
| 13. Solve for $x$. | 14. What is the measure of angle H ? <br> A) $81^{\circ}$ <br> B) $48^{\circ}$ <br> C) $104^{\circ}$ <br> D) $74^{\circ}$ |


| 15. Draw a Venn Diagram for the following. Of 35 families surveyed, 10 families have cars, 20 families have vans. There are 25 that own a Car OR a Van. How many own a Car AND a Van? <br> How many only own a Van? <br> How many do not own a car or a van? <br> What is the PROBABILITY of a family owning Both a car and a van? | 16. Solve for $x$. |
| :---: | :---: |
| 17.What is the length of $d$ ? | 18. Find the measure of angle C, and Angle B. |
| 19. <br> a) What is the probability of a person being underweight given they are male? <br> b) Find $P$ (about right \| Female) | 20. Kim mows lawns on the weekends. The shape of her most unusual yard is shown, with dimensions in feet. <br> How many square feet of grass does Kim mow in this lawn? <br> (A) 336 sq ft <br> (B) 352 sq ft <br> (C) 360 sq ft <br> (D) 368 sq ft |
| 21. <br> A triangle is defined by the points $\mathrm{A}(13,13), \mathrm{B}(18,9)$, and $\mathrm{C}(8,9)$. What is the area of the triangle? <br> (A) 20.0 square units <br> (B) 20.5 square units <br> (C) 22.8 square units <br> (D) 32.0 square units | 22. <br> Ms. Braun builds a circular stone patio in her backyard. She adds a circular fire ring tangent to the stone patio. She frames these two circles with a rectangular border that is tangent to the fire ring and patio. The remaining area inside the rectangle is brick. <br> The patio is 12 feet in diameter and the ring is 6 feet in diameter. <br> What is the total area covered by brick? |

