12.3 Name_____

1. Find the equation of the circle. Name the center and the radius.
$X^2 + 14x + y^2 - 4y - 13 = 0$

2. Name the center and radius of the circle. $(x-3)^2 + (y+4)^2 = 15$

3. In a survey, 5 people exercise regularly and 21 people do not. Of those who exercise regularly, 1 person felt tired. Of those that didn't exercise regularly, 1 person felt tired. Organize these results in a two-way table. Then find the marginal frequencies.

EXERCISE REGULARLY

	YES	NO	TOTAL
YES			
NO			
TOTAL			

FEEL
TIRED

4. The data in the table shows the relative frequencies for the number of adults and students at a football game and whether they purchased a program or not.

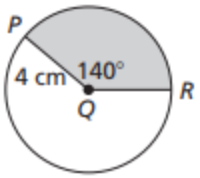
	Yes	No	Total
Adults	0.42	0.31	
Students	0.21	0.06	
Total			

. Based on this data, use a percentage to express how likely it is that a student at a football game next Friday will not buy a program at the concession stand. Round your answer to the nearest whole percent, if necessary.

Based on this data, use a percentage to express how likely it is that an adult at a football game next Friday will buy a program at the concession stand. Round your answer to the nearest whole percent, if necessary.

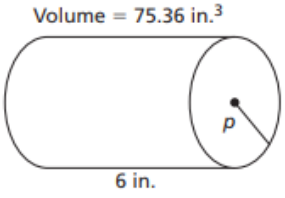
Based on this data, use a percentage to express how likely it is an adult or student at a football game next Friday will buy a program at the concession stand. Round your answer to the nearest whole percent, if necessary.

5. Find the area of the sector.



6. Find area of a regular hexagon where each side is 10 inches.

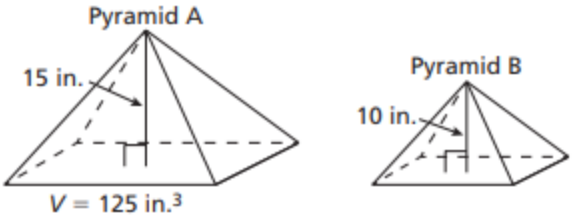
7. Find the radius.



8. About 70,000 people live in a region with a 30-mile radius. Find the population density in people per square mile.

9. A pyramid with a triangular base has a volume of 18 cubic centimeters. The height of the pyramid is 9 cm and the height of the triangular base is 3 cm. Find the length of the base of the triangle.

10. The pyramids are similar. Find the volume of the small pyramid.

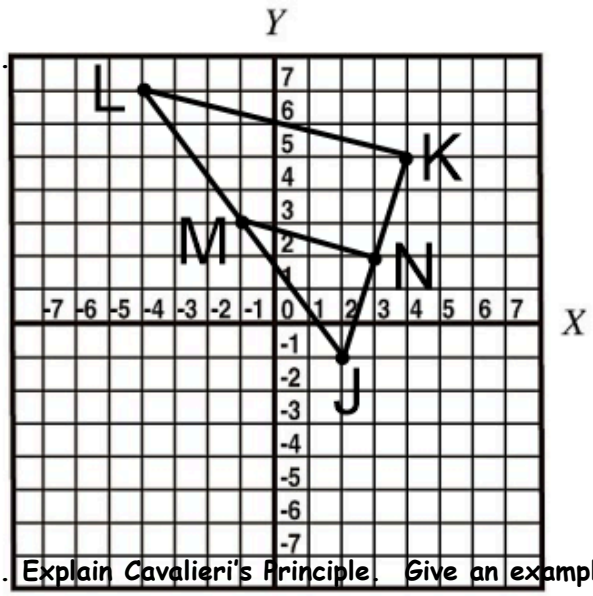


11. Draw a family tree to show the relationship of all the quadrilaterals.

12. Draw a triangle ABC. Label D as the midpoint of AB and E as the midpoint of AC. Connect D and E. What is segment DE called?

List two things that are true about segment DE.

13.

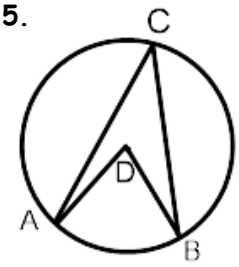


Find the length of LK AND the length of MN.

Find the slope of LK AND the slope of MN.

14. Explain Cavalieri's Principle. Give an example.

15.



What is the relationship between <ACB & <ADB if the center is D.