## Locus Review Do Work on Separate Sheet

Answer each of the following. Be sure to include a sketch as part of your answer when appropriate.			
1) The equation of the circle is given by $(x - 3)^2 + (y + 2)^2 = 100$ . What are the coordinates of the center of the circle?			
1) (-3, 2)	2) (3, -2)	3) (3, 2)	4) (-2, 3)
2) If the graphs of $x^2 + y^2 = 16$ and $y = 4$ are drawn on the same set of axes, how many points do the graphs have in common?			
1) 1	2) 2	3) 3	4) 4
3) Wilson got lost hiking in the woods. A rescue team found his campsite and estimated that he could have traveled up to 3 miles since morning. What is the locus of points in which the rescuers could search?			
<ol> <li>a line 3 miles long</li> <li>a ray 3 miles from the</li> </ol>	campsite	<ol> <li>a square 3 miles long</li> <li>a circle with a radius</li> </ol>	
4) Write an equation of the circle whose center is (6, -1) and whose radius is 5?			
5) Car A is parked 7 miles from car B. Sketch the points that are 4 miles from car A and sketch the points that are 4 miles from car B. Label with an X all the points that satisfy both conditions.			
6) The locus of points equidistant from two distinct points A and B is:			
I) one line	2) two lines	3) one circle	4) two circles
7) A point P moves on a path in a plane such that its distance from a point A is always 10 units. The path of P forms a:			
l) circle	2) parabola	3) straight line	4) pair of perpendicular lines
8) What is the locus of points in a plane that are 10 centimeters from the x-axis?			
l) one point	2) one circle	3) one line	4) two lines
9) What is the total number of points equidistant from both the x- and y-coordinate axes and 2 units from the origin?			
(1)1	(2) 2	(3) 3	(4) 4
10) Which is an equation of the locus of points 4 units below the x-axis?			
(1) x = -4	2) $x = 4$	3) y = 4	4) y = -4
	The equation of the circle 1) (-3, 2) If the graphs of $x^2 + y^2 = 1$ 1) 1 Wilson got lost hiking in the miles since morning. What 1) a line 3 miles long 3) a ray 3 miles from the Write an equation of the circle Car A is parked 7 miles from from car B. Label with an The locus of points equidis 1) one line A point <i>P</i> moves on a path 1) circle What is the locus of points 1) one point What is the total number of (1) 1 Which is an equation of the	The equation of the circle is given by $(x - 3)^2 + (y + 3)^2$ 1) (-3, 2)2) (3, -2)If the graphs of $x^2 + y^2 = 16$ and $y = 4$ are drawn on the second of the second of $x^2 + y^2 = 16$ and $y = 4$ are drawn on the second of the locus of points 4 units before the second of the locus of points 4 units before the second of the locus of points 4 units before the second of the locus of points 4 units before the second of the locus of points 4 units before the second of the locus of points 4 units before the second of the locus of points 4 units before the second of the locus of points 4 units before the second of the locus of points 4 units before the second of the locus of points 4 units before the second of the locus of points 4 units before the second of the locus of points	The equation of the circle is given by $(x - 3)^2 + (y + 2)^2 = 100$ . What are the code1) $(-3, 2)$ 2) $(3, -2)$ 3) $(3, 2)$ If the graphs of $x^2 + y^2 = 16$ and $y = 4$ are drawn on the same set of axes, how multiply 12) 23) 3Wilson got lost hiking in the woods. A rescue team found his campsite and estimmiles since morning. What is the locus of points in which the rescuers could sea1) a fine 3 miles long2) a square 3 miles lon3) a ray 3 miles from the campsite2) a square 3 miles lon3) a ray 3 miles from the campsite4) a circle with a radiusWrite an equation of the circle whose center is $(6, -1)$ and whose radius is 5?Car A is parked 7 miles from car B. Sketch the points that are 4 miles from car Afrom car B. Label with an X all the points that satisfy both conditions.The locus of points equidistant from two distinct points A and B is:1) one line2) parabola3) one circleA point P moves on a path in a plane such that its distance from a point A is alwa1) circle2) one circle3) one lineWhat is the locus of points in a plane that are 10 centimeters from the x-axis?1) one point2) one circle3) one lineWhat is the total number of points equidistant from both the x- and y-coordinate at (1) 1(2) 2(3) 3

11) An equation of the locus of points 3 units from the origin is

(1) x = 3 2) y = 3 3)  $x^2 + y^2 = 3$  4)  $x^2 + y^2 = 9$ 

12) Which equation represents the locus of points equidistant from the points (-5, 3) and (-11, 3)?

1) x = -8 2) y = -8 3) x = -16 4) y = -16

- 13) A radio broadcasting tower can transmit a single for 15 miles. What is the locus of the signal?
  - 1) a circle2) a line3) a ray4) a square
- 14) In order to locate an underground valve after it is buried a man measures its distance from 2 trees that are 14 feet apart. The valve is 8 feet from each tree. Construct the possible location(s) of the valve on the diagram below; let each square be 1 foot wide. Explain how you would use your diagram to find the valve.



## ANSWERS

(Problems with \* must include a diagram to receive full credit)

1) (2) 2) \* (1) 3) \*(4) 4) 
$$(x-6)^2 + (y+1)^2 = 25$$
 5) \* (1) 6) \* (1) 7) \* (4) 8) \* (4) 9) \*(4) 10) (4) 11) (4)  
12) \* (1) 13) \*(1)

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