CHAPTER 13

TEST FORM H

NAME__________________________

CLASS____SCORE____GRADE____

Find the distance between each pair of points.

1. \((7, -3)\) and \((-7, 1)\)
   a) \(16\sqrt{17}\) b) \(2\sqrt{109}\) c) \(6\sqrt{5}\) d) \(2\sqrt{53}\)

2. \((1, -a)\) and \((-1, a)\)
   a) \(2\sqrt{1+a^2}\) b) \(2\sqrt{a}\) c) \(\sqrt{2a}\) d) \(2\sqrt{4+a^2}\)

Find the midpoint of the segment with the given endpoints.

3. \((8, -2)\) and \((-8, 1)\)
   a) \((0, -0.5)\) b) \((-1, 0)\) c) \((0.5, -1.5)\) d) \((0, -1)\)

4. \((5, -a)\) and \((-1, a)\)
   a) \((0, a)\) b) \((2, 0)\) c) \((0, 2)\) d) \((0, 0)\)

Find the center and the radius of each circle.

5. \((x+7)^2 + (y-6)^2 = 16\)
   a) \((-7, 7)\); 3 b) \((7, -6)\); 4
c) \((7, -7)\); 3 d) \((-7, 6)\); 4

6. \(x^2 + y^2 + 8x - 4y + 2 = 0\)
   a) \((4, 1)\); 4 b) \((-4, 2)\); \(3\sqrt{2}\)
c) \((4, -2)\); \(3\sqrt{2}\) d) \((4, -1)\); 4

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1. ______________

2. ______________

3. ______________

4. ______________

5. ______________

6. ______________
Classify the equation as a circle, an ellipse, a parabola, or a hyperbola.

7. $x^2 + y^2 + 6x + 4y + 4 = 0$
   a) ellipse  b) parabola  c) circle  d) hyperbola

8. $y = x^2 + 6x + 6$
   a) ellipse  b) circle  c) hyperbola  d) parabola

9. Which is the graph of $\frac{y^2}{4} - \frac{x^2}{9} = 1$?
   a)  
   b)  
   c)  
   d)
10. Which is the graph of $25x^2 + 4y^2 = 100$?
   a) 
   b) 
   c) 
   d) 

11. Which equation corresponds to the graph at right?
   a) $\frac{y^2}{16} - \frac{x^2}{4} = 1$
   b) $\frac{x^2}{4} - \frac{y^2}{16} = 1$
   c) $xy = -4$
   d) $xy = -13$
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12. Which equation corresponds to the graph at right?

a) \( y = x^2 - 3x \)  
b) \( y = x^2 + 3x \)  
c) \( x = -y^2 - 3y \)  
d) \( x = -y^2 + 3y \)

13. Find one solution to the system \( \frac{x^2}{16} + \frac{y^2}{4} = 1 \), 
\[ 2x + 4y = 8 \).

a) (2,0)  
b) (0,4)  
c) (0,5)  
d) (4,0)

14. Find one solution to the system \( x^2 + y^2 = 9 \), \[ \frac{x^2}{9} - \frac{y^2}{2} = 1 \). 

a) (2,0)  
b) (0,3)  
c) (0,-2)  
d) (-3,0)
15. A rectangle with diagonal of length $\sqrt{65}$ has an area of 28. Find the dimensions of the rectangle.
   a) 7 by 4  b) 24 by 3  c) 7 by 2  d) 12 by 3

16. Two squares are such that the sum of their areas is 12 m$^2$ and the difference of their areas is 4 m$^2$. Find the length of a side of each square.
   a) $\sqrt{5}$ m, $\sqrt{2}$ m  b) $\sqrt{2}$ m, 5 m
   c) $2\sqrt{2}$ m, 2 m  d) $2\sqrt{5}$ m, $2\sqrt{2}$ m

17. A rectangle has a diagonal of length 29 m and a perimeter of 82 m. Find the larger dimension of the rectangle.
   a) 20 m  b) 12 m  c) 21 m  d) 9 m