

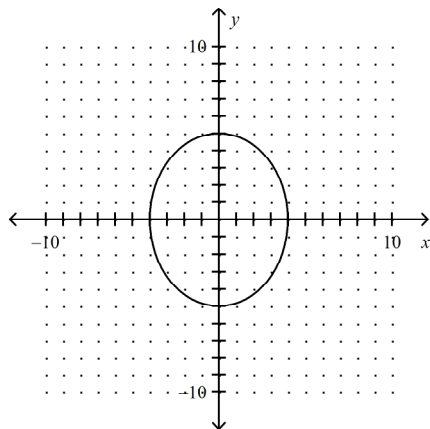
**Algebra II Practice Quiz 10.4 - 10.5****Multiple Choice**

Identify the choice that best completes the statement or answers the question.

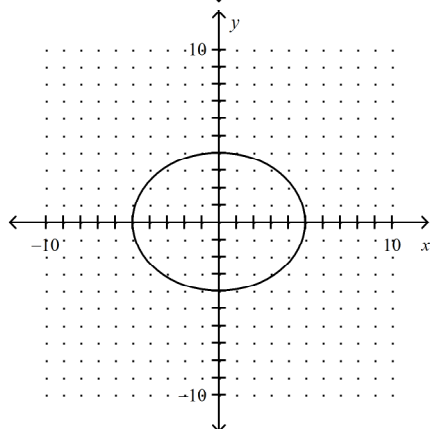
- \_\_\_\_\_ 1. (1 point) Sketch a complete graph of the conic section.

$$\frac{(x+1)^2}{25} - \frac{(y-2)^2}{16} = 1$$

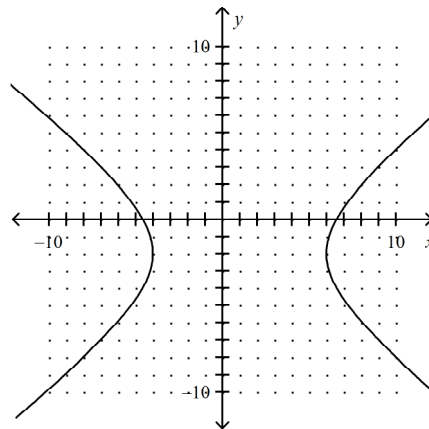
A)



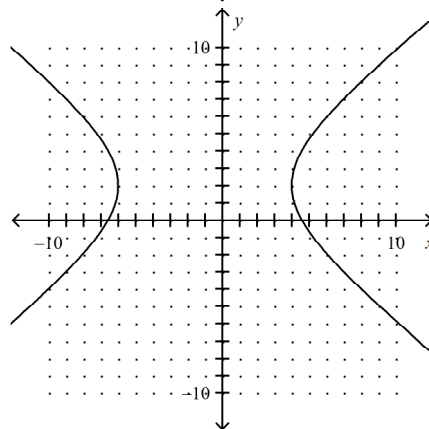
B)



C)



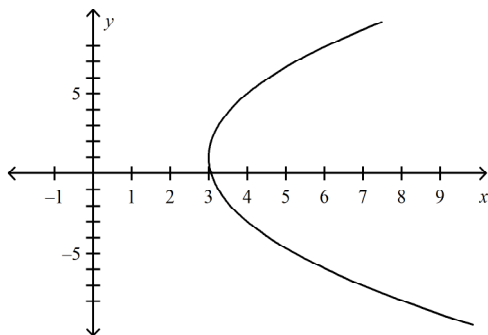
D)



Name: \_\_\_\_\_

ID: A

- \_\_\_\_\_ 2. (1 point) Use the Distance Formula to find the equation of a parabola with focus  $F(4,0)$  and directrix  $x = -3$ .



- A)  $x = \frac{1}{14}y^2 - \frac{25}{14}$       C)  $y = \frac{1}{14}x^2 + \frac{1}{2}$   
 B)  $x = -\frac{1}{2}y^2 - \frac{7}{2}$       D)  $x = \frac{1}{14}y^2 + \frac{1}{2}$

- \_\_\_\_\_ 3. (1 point) Write the equation in standard form for the parabola with vertex  $(0,0)$  and the directrix  $y = -14$ .

- A)  $y = \frac{1}{56}x^2$       C)  $x = 56y^2$   
 B)  $x = \frac{1}{56}y^2$       D)  $y = -\frac{1}{56}x^2$

- \_\_\_\_\_ 4. (1 point) Find the equation of the parabola with vertex at the origin that satisfies the given condition:  
 focus  $(-2, 0)$

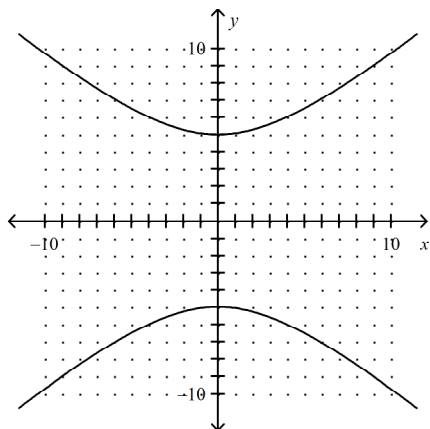
- A)  $x = 2y^2$       C)  $x = -\frac{1}{8}y^2$   
 B)  $y = -\frac{1}{8}x^2$       D)  $x = -2y^2$

Name: \_\_\_\_\_

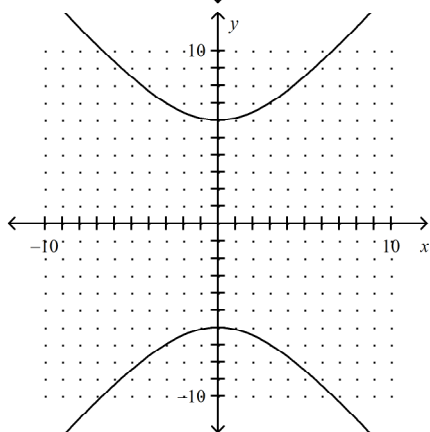
ID: A

\_\_\_\_\_ 5. (1 point) Which is the graph of the equation  $36x^2 - 25y^2 = 900$ ?

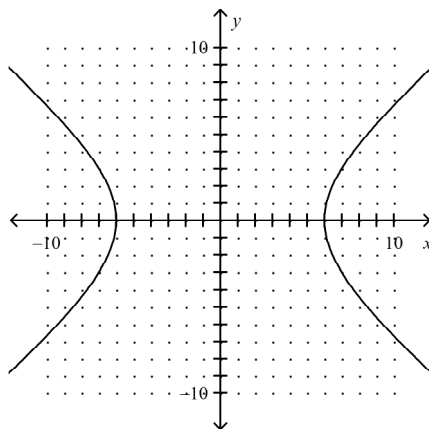
A)



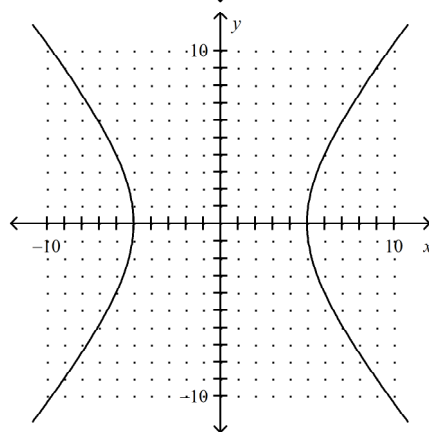
B)



C)

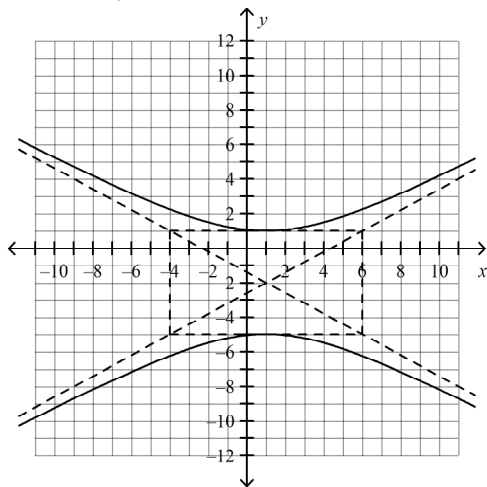


D)

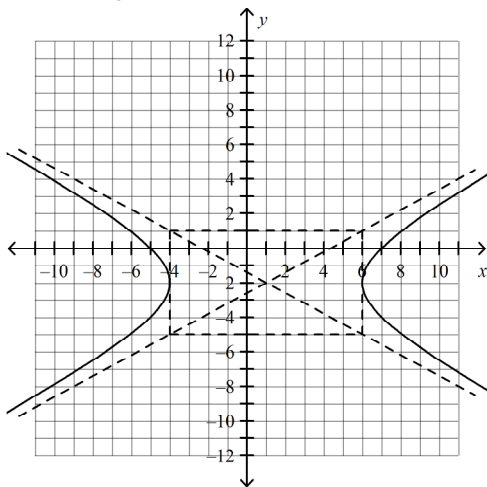


\_\_\_\_\_ 6. (1 point) Find the vertices, co-vertices, and asymptotes of the hyperbola  $\frac{(y-1)^2}{25} - \frac{(x+2)^2}{9} = 1$ , and then graph.

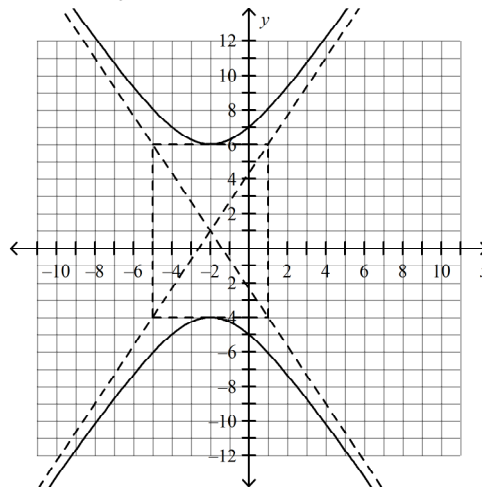
- A) Vertices: (1, 1) and (1, -5)  
 Co-vertices: (-4, -2) and (6, -2)  
 Asymptotes:  $y + 2 = \frac{3}{5}(x - 1)$  and  
 $y + 2 = -\frac{3}{5}(x - 1)$



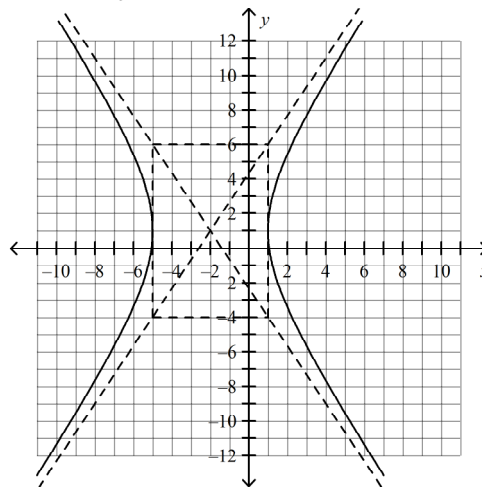
- B) Vertices: (-4, -2) and (6, -2)  
 Co-vertices: (1, 1) and (1, -5)  
 Asymptotes:  $y + 2 = \frac{3}{5}(x - 1)$  and  
 $y + 2 = -\frac{3}{5}(x - 1)$



- C) Vertices: (-2, 6) and (-2, -4)  
 Co-vertices: (1, 1) and (-5, 1)  
 Asymptotes:  $y - 1 = \frac{5}{3}(x + 2)$  and  
 $y - 1 = -\frac{5}{3}(x + 2)$

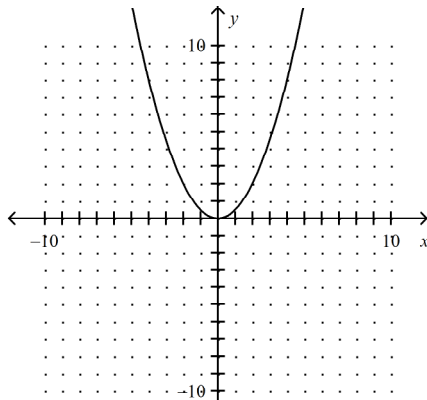


- D) Vertices: (1, 1) and (-5, 1)  
 Co-vertices: (-2, 6) and (-2, -4)  
 Asymptotes:  $y - 1 = \frac{5}{3}(x + 2)$  and  
 $y - 1 = -\frac{5}{3}(x + 2)$

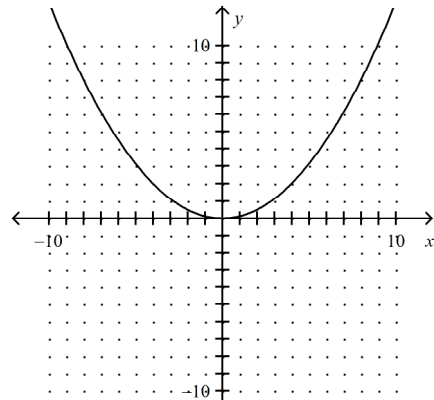


\_\_\_\_\_ 7. (1 point) Which is the graph of  $y = -\frac{1}{2}x^2$ ?

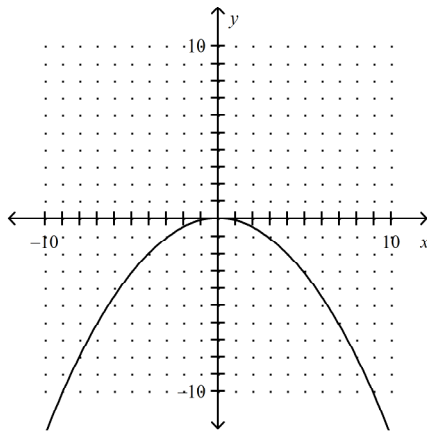
A)



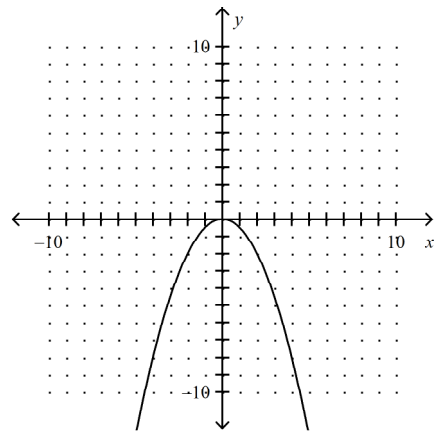
C)



B)



D)



\_\_\_\_\_ 8. (1 point) A reflector is designed so that its cross section is a parabola. The equation for a cross section of the parabola is  $x = \frac{1}{36}y^2$ . How far is the parabola's focus from its vertex?

- A) 4  
B) 9

- C) 16  
D) 36

\_\_\_\_\_ 9. (1 point) Find the equation of the conic section satisfying the given condition.  
parabola with focus  $(-1, 3)$  and directrix  $y = 5$

- A)  $(x + 1)^2 = -4(y - 4)$   
B)  $(y - 1)^2 = -4(x + 4)$

- C)  $(x - 1)^2 = -4(y + 4)$   
D)  $(y + 1)^2 = -4(x - 4)$

\_\_\_\_\_ 10. (1 point) Find the equation of the hyperbola centered at the origin that satisfies the given conditions:  
 $x$ -intercepts  $\pm 4$ , asymptote  $y = \frac{3}{4}x$ .

- A)  $16x^2 - 9y^2 = 144$   
B)  $9x^2 - 16y^2 = 144$

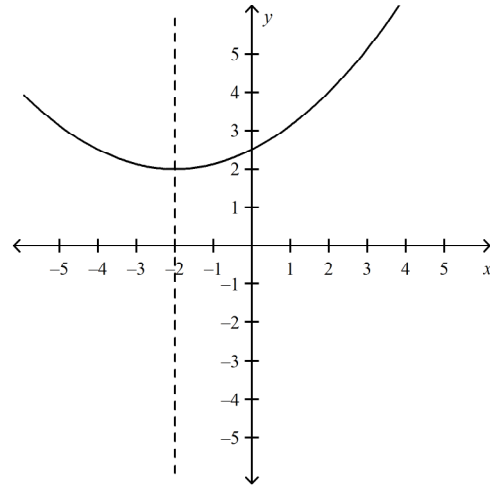
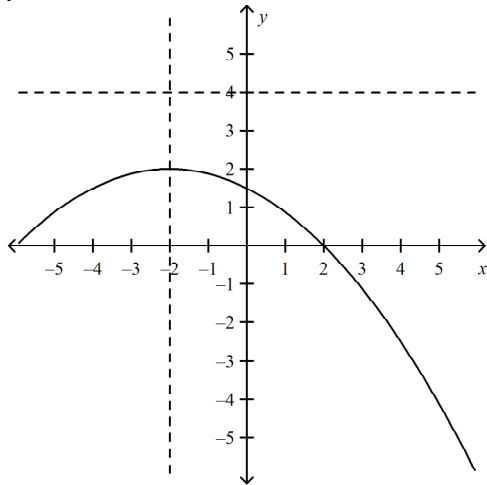
- C)  $9x^2 + 16y^2 = 144$   
D)  $16x^2 + 9y^2 = 144$

- \_\_\_\_\_ 11. (1 point) Write an equation in standard form for the hyperbola with center (0, 0), vertex (0, 6), and focus (0, 8).
- A)  $\frac{x^2}{64} - \frac{y^2}{36} = 1$  C)  $\frac{x^2}{28} - \frac{y^2}{36} = 1$
- B)  $\frac{y^2}{36} - \frac{x^2}{28} = 1$  D)  $\frac{y^2}{36} - \frac{x^2}{64} = 1$
- \_\_\_\_\_ 12. (1 point) Find the constant difference for a hyperbola with foci  $F_1(-5, 0)$  and  $F_2(5, 0)$  and the point on the hyperbola (1, 0).
- A) -10 C) -2
- B) 10 D) 2
- \_\_\_\_\_ 13. (1 point) Find the equation of the conic section satisfying the given condition.  
ellipse with center is (5, 6); vertex (13, 6); minor axis of length 8
- A)  $\frac{(x-5)^2}{64} + \frac{(y-6)^2}{16} = 1$  C)  $\frac{(x-5)^2}{16} + \frac{(y-6)^2}{64} = 1$
- B)  $\frac{(x)^2}{64} + \frac{(y)^2}{16} = 1$  D) None of these

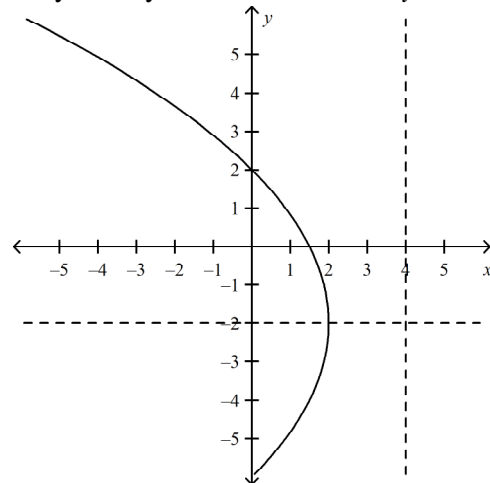
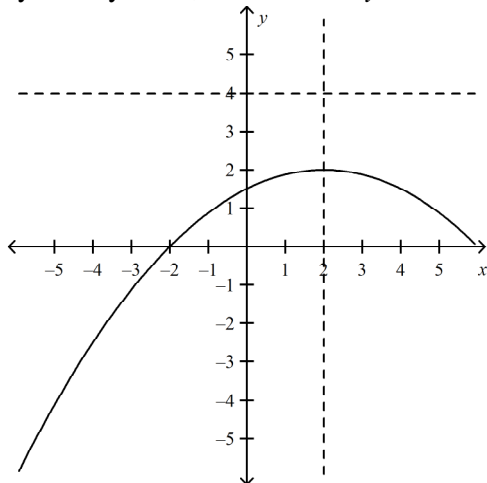
14. (1 point) Find the vertex, value of  $p$ , axis of symmetry, focus, and directrix of the parabola  $y - 2 = -\frac{1}{8}(x + 2)^2$ .

Then, graph the parabola.

- A) Vertex  $(-2, 2)$ , focus  $(-2, 0)$ ,  $p = -2$ , axis of symmetry  $x = -2$ , and directrix  $y = 4$ .  
 C) Vertex  $(-2, 2)$ , focus  $(-2, 4)$ ,  $p = 2$ , axis of symmetry  $x = -2$ , and directrix  $y = 0$ .



- B) Vertex  $(2, 2)$ , focus  $(2, 0)$ ,  $p = 2$ , axis of symmetry  $x = 2$ , and directrix  $y = 4$ .  
 D) Vertex  $(2, -2)$ , focus  $(0, -2)$ ,  $p = -2$ , axis of symmetry  $x = 4$ , and directrix  $y = -2$ .



## Algebra II Practice Quiz 10.4 - 10.5

### Answer Section

#### MULTIPLE CHOICE

- |            |        |               |
|------------|--------|---------------|
| 1. ANS: D  | PTS: 1 |               |
| 2. ANS: D  | PTS: 1 | REF: Page 751 |
| 3. ANS: A  | PTS: 1 | REF: Page 752 |
| 4. ANS: C  | PTS: 1 |               |
| 5. ANS: D  | PTS: 1 |               |
| 6. ANS: C  | PTS: 1 | REF: Page 746 |
| 7. ANS: D  | PTS: 1 |               |
| 8. ANS: B  | PTS: 1 | REF: Page 754 |
| 9. ANS: A  | PTS: 1 |               |
| 10. ANS: B | PTS: 1 |               |
| 11. ANS: B | PTS: 1 | REF: Page 745 |
| 12. ANS: D | PTS: 1 | REF: Page 744 |
| 13. ANS: A | PTS: 1 |               |
| 14. ANS: A | PTS: 1 | REF: Page 753 |