S2 Review: Multiple Choice Problems (Unit 6 & 8) Math 126

1) Which y-coordinate is in the solution to the system of equations  $\begin{cases} y = 4x + 4\\ 8x + 2y = 88 \end{cases}$ 

A) 
$$y = 6$$
 B)  $y = 20$  C)  $y = 24$  D) no solution

2) Solve the system of equations 
$$\begin{cases} y = 10 - 2x \\ 8x + 4y = 40 \end{cases}$$

A) (0, 10) B) (5,0) C) 
$$\{(x, y) | 2x + y = 10\}$$
 D) no solution

3) Solve the system of equations: 
$$\begin{cases} 2x + 3y + z = 25\\ 2x - 4y - z = -14\\ 5x + y + 2z = 29 \end{cases}$$
  
A) (2, 5, 4) B) (5, 4, 2) C) (4, 2, 5) D) (4, 5, 2)

4) What are the x-coordinates of the solution to the system 
$$\begin{cases} x^2 + y^2 = 5\\ x + y = 3 \end{cases}$$

A) x = -1 and x = 5B) x = 1 and x = 2C) x = -2 and x = 0

- 5) Find the standard form of the equation of the ellipse:
  - A)  $\frac{(x-3)^2}{36} \frac{(y+1)^2}{16} = 1$
  - B)  $\frac{(x+1)^2}{16} \frac{(y-3)^2}{36} = 1$
  - C)  $\frac{(x+1)^2}{36} + \frac{(y-3)^2}{16} = 1$

D) 
$$\frac{(x-3)^2}{16} + \frac{(y+1)^2}{36} = 1$$



Name

6) Graph the inequality:  $x^2 + y^2 \le 25$ 



7) Graph the solution set of the system of inequalities:  $\begin{cases} y > x^2 \\ 6x + 4y \le 24 \end{cases}$ 





8) Graph the equation  $x^2 + y^2 + 12x + 8y + 43 = 0$ 



9)	) Find the focus and directrix of the parabola with equation $x^2 = 32y$				
	A) focus (0,8)	B) focus (8,0)	C) focus (8,0)	D) focus (0,-8)	
	directrix: $y = -8$	directrix: $x = 8$	directrix: $y = 8$	directrix: $x =$	

10) Find the focus and directrix of the parabola with equation  $y^2 = 4x$ 

A) focus $(0,-1)$	B) focus $(0,1)$	C) focus $(1,0)$	D) focus $(1,0)$
directrix: $y = -1$	directrix: $y = -1$	directrix: $x = -1$	directrix: $x = 1$

- 11) Find the location of the center and vertices for the hyperbola:  $\frac{(x+4)^2}{36} \frac{(y-1)^2}{25} = 1$ 
  - A) Center (-4, 1), Vertices: (-9,1) and (3, 1)
  - B) Center (-4, 1), Vertices: (-10,1) and (2, 1)
  - C) Center (4, -1), Vertices: (-2,-1) and (10, -1)
  - D) Center (4, -1), Vertices: (-10,-1) and (2, -1)

12) Match the equation to the graph:  $x^2 = -3y$ 



-8

D) focus (1,0)  
directrix: 
$$x = 1$$

13) Match the equation to the graph:  $y^2 = 11x$ 



14) Graph the hyperbola. Find the equations of the asymptotes.  $\frac{y^2}{9} - \frac{x^2}{25} = 1$ 

