

East Los Angeles College
Department of Mathematics
Math 125
Final Exam

Solve the following for x

1) $|x - 5| + 2 = 6$

2) $2|x| + 6 = 4$

3) $(x + 2)^2 = 9$

4) $x^2 = -36$

5) $x^2 - 6x + 5 = 0$

6) $2x^2 + 4x - 3 = 0$

7) $\sqrt{x + 1} = 4$

8) $\sqrt[3]{x + 5} = -1$

9) $2^{x-3} = 8$

10) $5^{-x} = 25$

11) $e^{-x} = 5$

12) $e^{x-5} + 3 = 12$

13) $\log_4(x) = 2$

14) $\log_{16}(x) = -\frac{1}{2}$

15) $\log(x - 2) = 1$

16) $\log_2(x - 3) + \log_2(x + 3) = 4$

17) $\log_4(x + 6) - \log_4(x) = 2$

18) $\ln(x + 5) + \ln(x + 1) = \ln(12)$

Determine the domain for the following functions.

19) $f(x) = \sqrt{x - 5}$

20) $f(x) = \frac{1}{3x+12}$

Determine the inverse for the following 1 to 1 function.

21) $f(x) = 2x + 7$

22) $f(x) = \sqrt{x - 8}$

$$y = 2x^2 + 6x - 1$$

23) Complete the Square and write in graphing format $y = a(x - h)^2 + k$

24) Determine the vertex

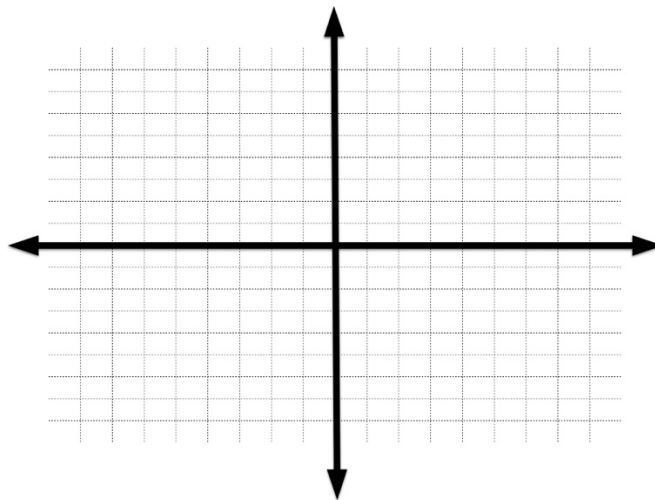
25) opens up or down

26) Axis of Symmetry

27) Determine the x-intercepts, if any.

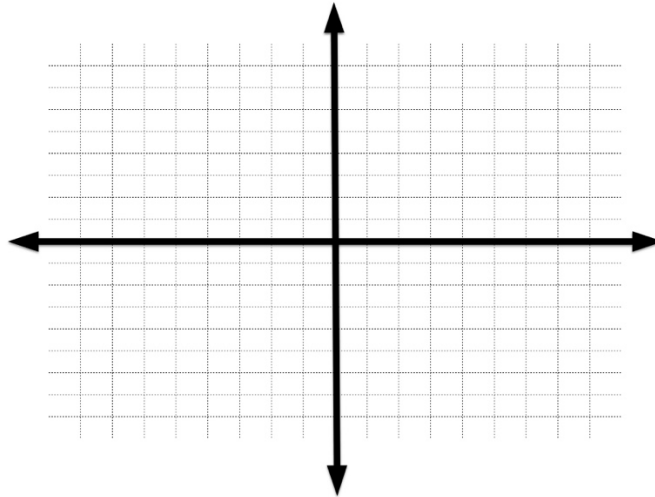
28) Determine the y-intercepts

29) Sketch the curve on the graph paper.



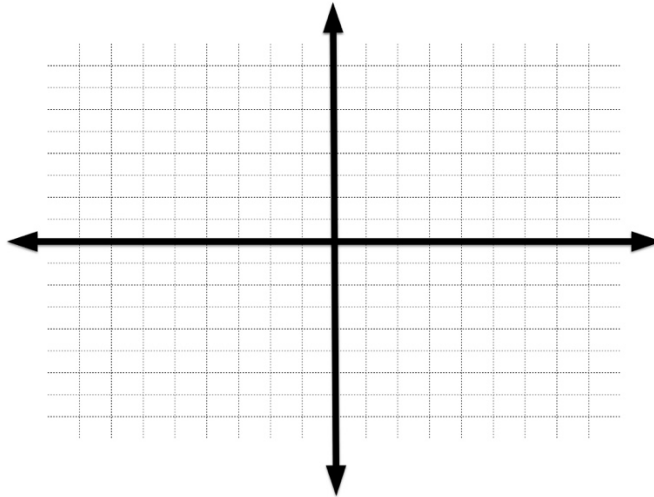
$$x^2 + y^2 - 6x + 10y - 40 = 0$$

- 30) Complete the square and determine the equation of the circle.
- 31) What is the center of the circle?
- 32) What is the radius of the circle?
- 33) Graph the Circle.



$$4(x - 1)^2 + (y + 4)^2 = 36$$

- 34) What is the center of the ellipse?
- 35) What are the a values?
- 36) What are the b values?
- 37) Sketch the graph.



A couple invests \$ 800 at 6% annual interest. How much will the couple have in 25 years, if the interest is compounded:

- 38) Quarterly?
- 39) Monthly?
- 40) Continuously?

Answer Sheet

1		21	
2		22	
3		23	
4		24	
5		25	
6		26	
7		27	
8		28	
9		29	Use Graph Paper
10		30	
11		31	
12		32	
13		33	Use Graph Paper
14		34	
15		35	
16		36	
17		37	Use Graph Paper
18		38	
19		39	
20		40	