

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

Solve and graph the following Non-Linear Inequalities.

23) $\frac{x^2 - 16}{x} \geq 0$

24) $\frac{x - 5}{x} < 1$

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

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

26) Determine the vertex

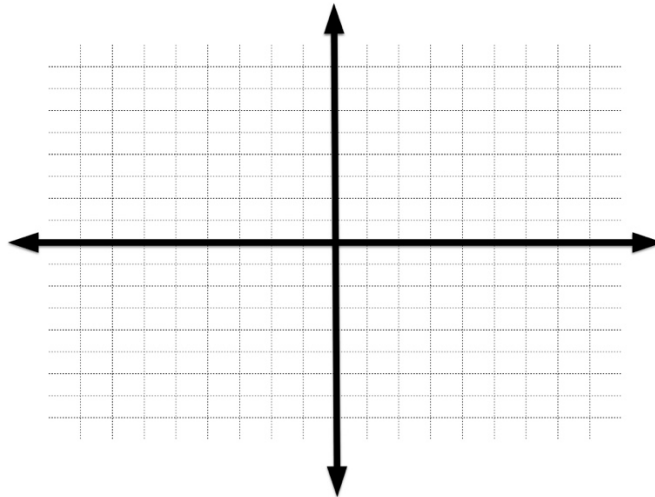
27) opens up or down

28) Axis of Symmetry

29) Determine the x-intercepts, if any.

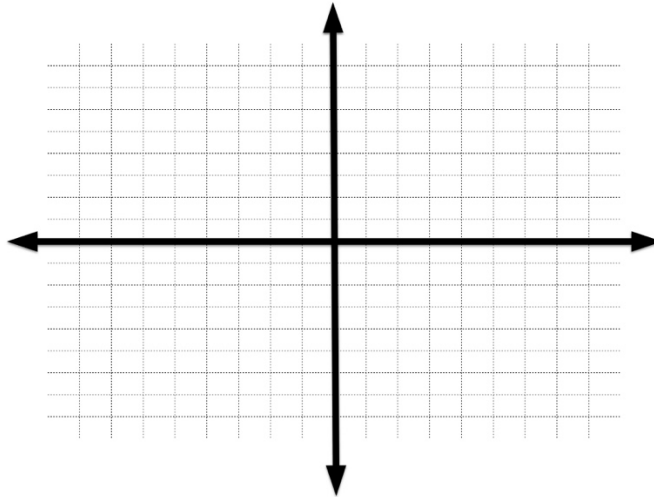
30) Determine the y-intercepts

31) Sketch the curve on the graph paper.



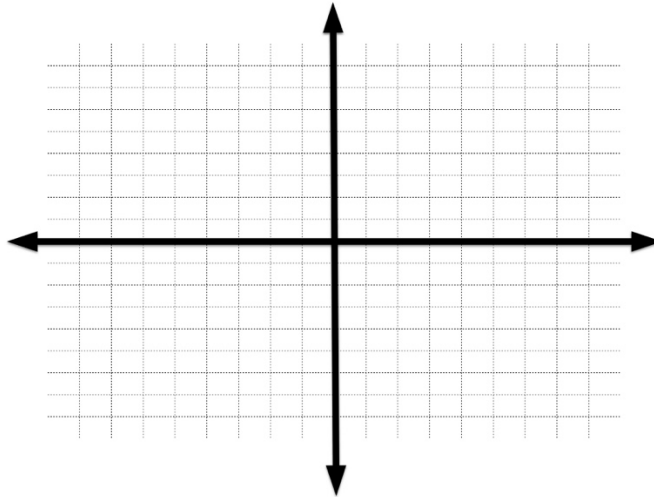
$$x^2 + y^2 - 6x + 10y - 40 = 0$$

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



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

- 36) What is the center of the ellipse?
- 37) What are the a values?
- 38) What are the b values?
- 39) 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:

- 40) Quarterly?
- 41) Monthly?
- 42) Continuously?

Answer Sheet

1		22	
2		23	
3		24	
4		25	
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9		30	
10		31	Use Graph Paper on Test
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