

East Los Angeles College
Department of Mathematics
Math 125
Final Exam Study Guide

Solve the following for x

1) $|x - 5| - 12 = 8$

2) $3|x| - 8 = 10$

3) $(x - 1)^2 = 16$

4) $x^2 = -36$

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

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

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

8) $\sqrt[3]{x + 2} = -3$

9) $2^{x-3} = 16$

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

11) $3^x = 8$

12) $5^{x-2} = 12$

13) $e^{-x} = 4$

14) $e^{x-5} + 3 = 8$

15) $\log(x + 5) = 2$

16) $\log_3(x - 4) + \log_3(x + 4) = 2$

17) $\log_4(x) - \log_4(x - 15) = 2$

18) $\log(2x + 5) = \log(x - 3)$

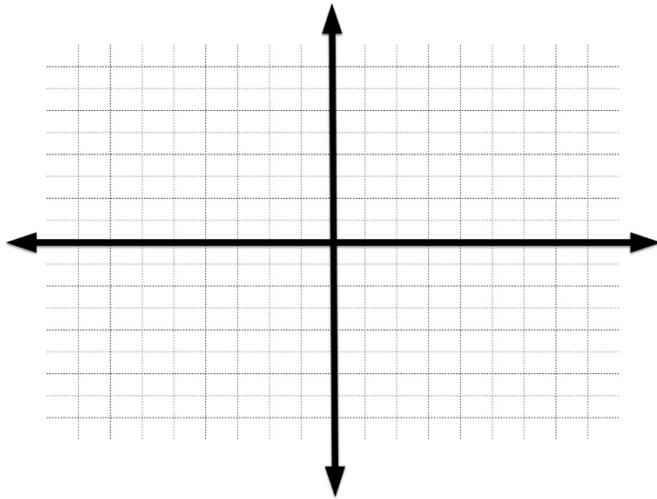
Given the quadratic $y = -2(x+1)^2 + 3$ answer the following questions.

19) Determine the vertex

20) Determine the x-intercepts, if any.

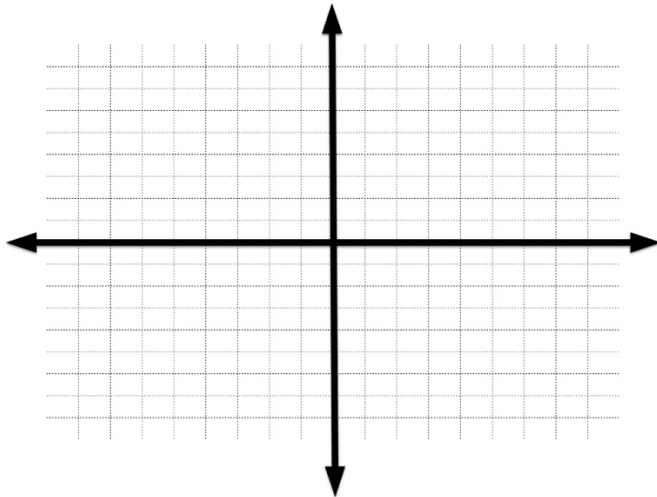
21) Determine the y-intercepts

22) Sketch the curve on the graph paper.



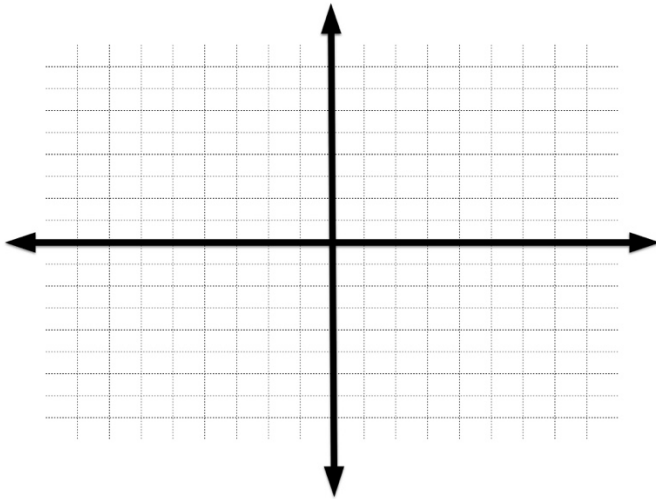
23) Complete the square and graph the following conic section.

$$x^2 - 4x + y^2 - 6y = -9$$



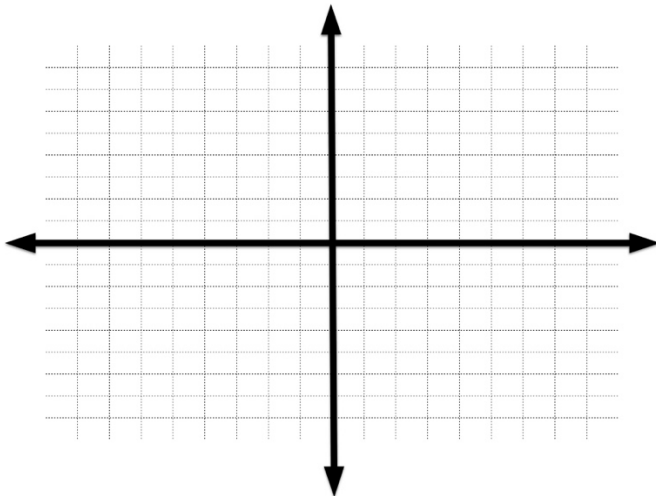
24) Complete the square and graph the following conic section.

$$x^2 + y^2 - 8y + 15 = 0$$



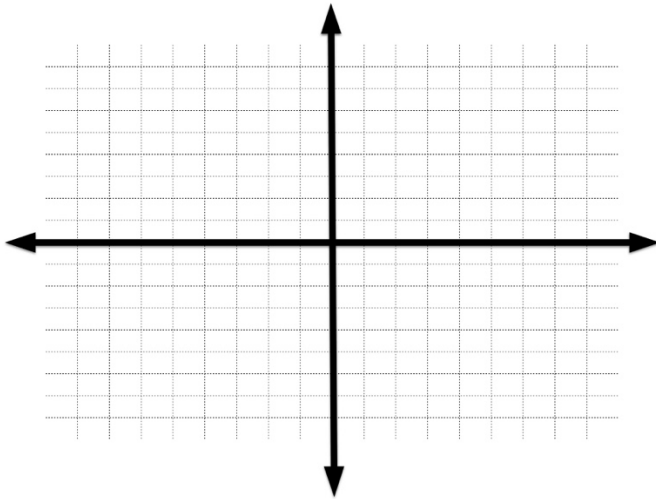
25) Complete the square and graph the following conic section.

$$(x + 1)^2 - 4(y - 1)^2 = 16$$



26) Complete the square and graph the following conic section.

$$4(x - 3)^2 + 25(y + 2)^2 = 100$$



Determine the domain for the following functions.

27) $f(x) = \sqrt{x-7}$

28) $f(x) = \frac{1}{2x-8}$

Determine the inverse for the following 1 to 1 function.

29) $f(x) = 2x + 5$

30) $f(x) = \sqrt{x-3}$

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

31) Quarterly?

32) Monthly?

33) Continuously?

34) what is your name?

Answer Sheet

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