

Chapter 3 Test Review CYU

Use when you get it right all by yourself

S Use when you did it all by yourself, but made a silly mistake

H Use when you could do it alone with a little help from teacher or peer

G Use when you completed the problem in a group

X Use when a question was attempted but wrong (get help)

N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Discriminant: value, #, & type of solutions	1		
Quadratic Formula	2		
Solving a system by graphing	3	3	3
Solving a system by substitution	3	3	3
Solving a system by elimination	3	3	3
Solving & graphing a quadratic inequality algebraically	4	4	4
Solving quadratic inequality systems by graphing	5	5	5
Solving quadratics: factoring, completing the square, square root method, graphing	6	6	6
How to use your calculator	All	All	All
Complex number operations (+ - *)	7	7	7

1) Use the discriminant to determine the number and type of solutions for the following quadratic equations. Give the value of the discriminant too.

a. $v^2 + 2v - 8 = 0$

b. $8x = -4 - 4x^2$

c. $2x = x^2 + 2$

2) Use the quadratic formula to solve the following quadratic equations. Be sure to write you're a, b, c, the set up, and your solutions in correct notation.

a. $v^2 + 2v - 8 = 0$

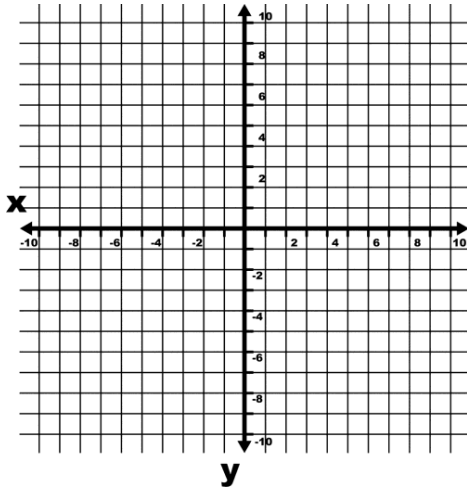
b. $8x = -4 - 4x^2$

c. $2x = x^2 + 2$

3) Solve the systems by graphing, substitution, and/or elimination. Be sure to know how to use all methods.

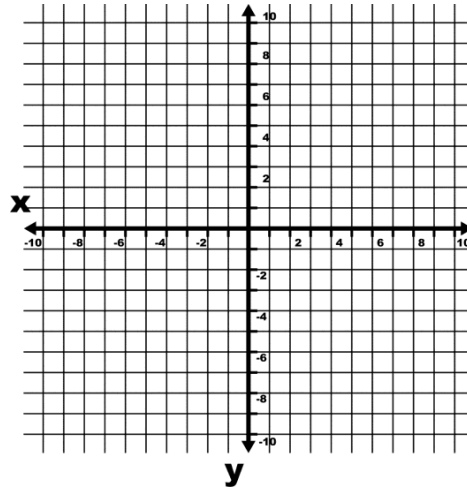
a. $y = x + 2$

$y = 0.5(x + 2)^2$



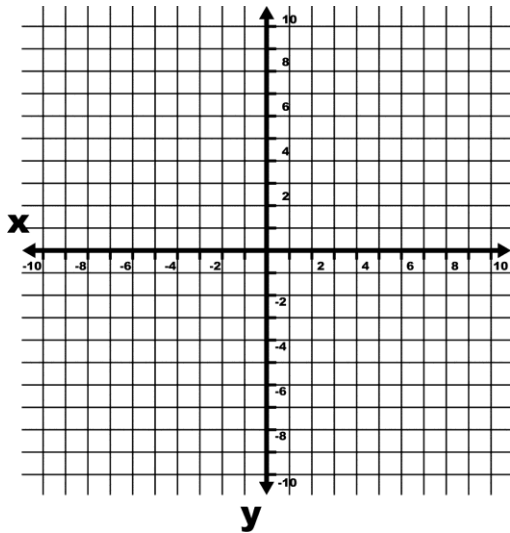
b. $y = (x - 3)^2 + 5$

$y = 5$



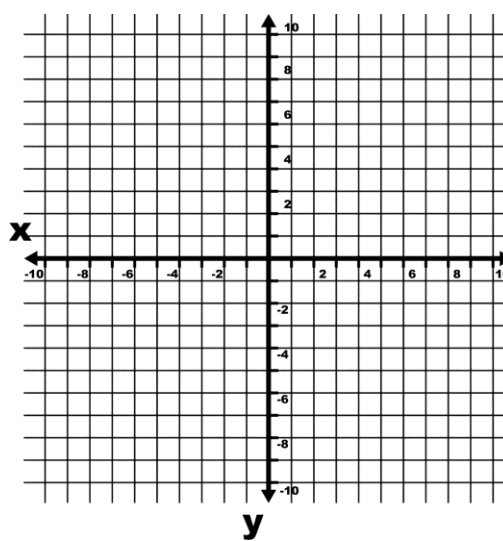
c. $y = -2x^2 - 9$

$y = -4x - 1$



d. $y = (x - 2)^2$

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



- 4) Solve the quadratic inequality algebraically. Graph & write your solution in interval notation. Be sure to check for extraneous solutions.

a. $4x^2 < 25$

b. $x^2 + 10x + 9 < 0$

c. $3x^2 - 13x > -10$

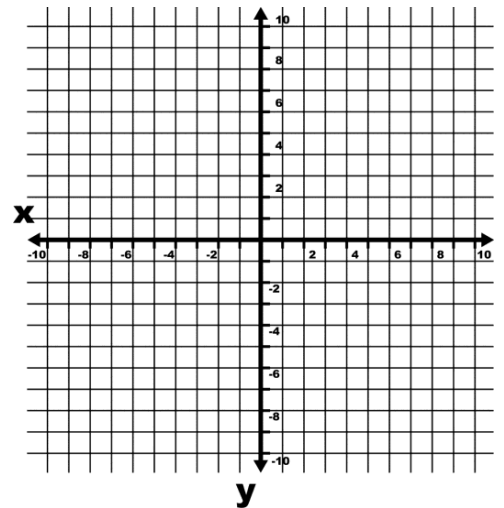
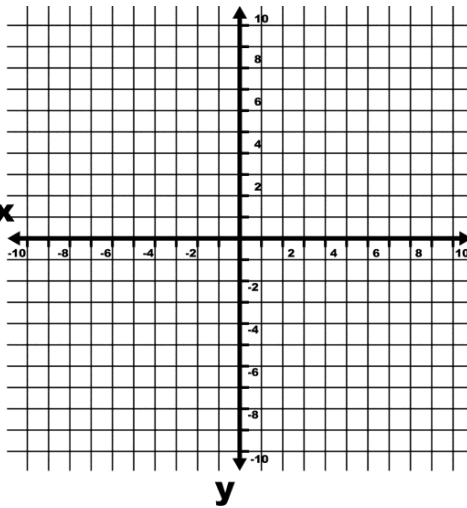
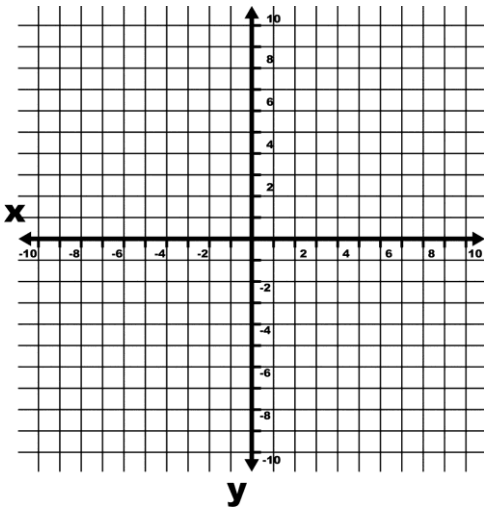
d. $\frac{1}{2}x^2 - x > 4$

- 5) Solve the system of inequalities by graphing.

a. $y \geq 2x^2$
 $y < -x^2 + 1$

b. $y \leq -x^2 + 4x - 4$
 $y > 3x^2 - 2$

c. $y \geq 2x^2 + x - 5$
 $y < -x^2 + 7x + 6$



- 6) Solve the following quadratics using any method you choose. (factoring, graphing, completing the square, square root method, quadratic formula or calculator) Be sure to know them all!

a. $0 = x^2 + 6x + 9$

b. $x^2 - 8x = -12$

c. $\frac{d^2}{20} + 8 = 15$

d. $-(x + 9)^2 = 64$

e. $x^2 - 1.75 = 0.5$

f. $0 = x^2 + 22x + 121$

7) **Perform the indicated operations with complex numbers. Simplify completely! Never should have an i bigger than a power of 1 in your answer.**

a. $(6 - i) - (7 + 3i)$

b. $(2 - 15i) - (4 + 5i)$

c. $2i(7 - i)$

d. $3i(-5 + i)$

e. $(3 - 2i)(4 + i)$

f. $(9 + 5i)(9 - 5i)$

8) **Other stuff you need to know**

- a. Review your quiz, notes, dailies, and CYU's
- b. Know the key characteristics (vertex, roots, zeros, solutions, axis of symmetry)
- c. Completing the square and knowing how to fill the "c" or the box
- d. Projectile Motion Real World Problems
 - a. $a = -16$ for feet
 - b. $a = -4.9$ for meters
 - c. V_0 = initial velocity
 - d. h_0 = initial height

CYU Reflection: *How far can you go: basic, intermediate, or advanced?*

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the

