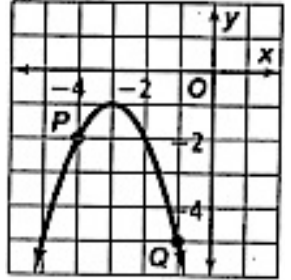
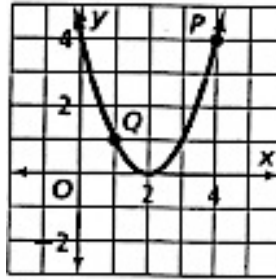
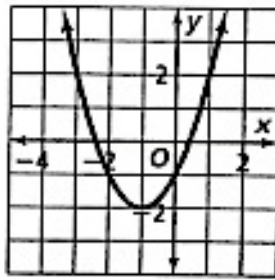
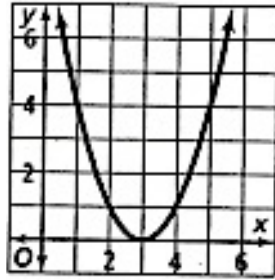
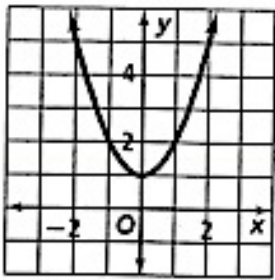


Homework 1.9 Solving Quadratics Part 1

Solve for the zeros of the quadratic equations in the graphs below.








Solve for the roots of the quadratic equations in the tables below.

Input	Output
-3	5
-2	0
0	-4
1	-3
2	0

Independent	Dependent
-4	0
-3	0
-2	0
-1	2
0	6

$x$	$f(x)$
3	-1
0	-3
4	0
0	2
-1	0

Answer the following questions about solving quadratics.

2. What are the synonyms (other ways) to state to “solve for  $x$ ” in a quadratic equation?

x-intercept(s)

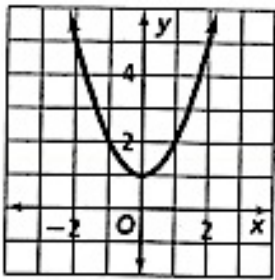



3. What are the solving methods to solve for quadratic equations? Fill in the methods in the diagram below.

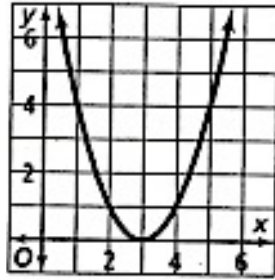
2 Terms (Binomials)	3 Terms (Trinomials)
1. _____	1. _____
2. _____	2. _____

4. In order to solve for  $x$  by using those methods answered in question 3, you must \_\_\_\_\_.

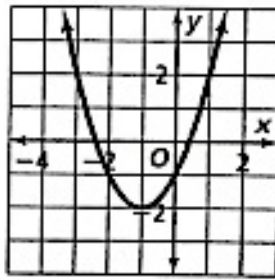
Solve for the zeros of the quadratic equations in the graphs below.



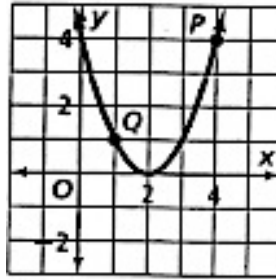
= No Solution



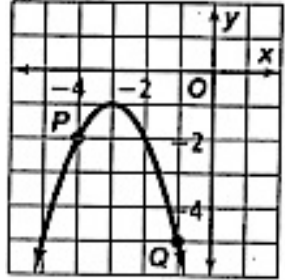
= (3, 0)



= (-2.5, 0), (0.5, 0)



= (2, 0)



= No Solution

Solve for the roots of the quadratic equations in the tables below.

Input	Output
-3	5
-2	0
0	-4
1	-3
2	0

= (-2, 0), (2, 0)

Independent	Dependent
-4	1
-3	0
-2	0
-1	2
0	6

= (-3, 0), (-2, 0)

x	f(x)
3	-1
0	-3
4	0
0	2
-1	0

= (4, 0), (-1, 0)

Answer the following questions about solving quadratics.

2. What are the synonyms (other ways) to state to “solve for x” in a quadratic equation?

x-intercept(s)

roots

zeros

solutions

3. What are the solving methods to solve for quadratic equations? Fill in the methods in the diagram below.

2 Terms (Binomials)	3 Terms (Trinomials)
1. <u>GCF Factoring</u>	1. <u>GCF Factoring</u>
2. <u>Difference of Squares</u>	2. <u>Factoring Trinomials</u>

4. In order to solve for x by using those methods answered in question 3, you must set the equation equal to 0.

Homework 1.9 Solving Quadratics Part 1 (Page 2)

Find the solutions of the quadratics.

1.  $x^2 + 5x + 6 = 0$

2.  $x^2 - x - 12 = 0$

3.  $a^2 - 9a + 18 = 0$

4.  $t^2 + 2t - 19 = 5$

5.  $x^2 + 15x + 30 = -6$

6.  $d^2 + 10d = -6$

7.  $2x^2 + 6x + 4 = 0$

8.  $3a^2 - 12a = 15$

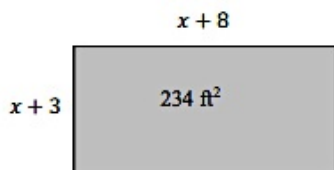
9.  $c^2 - 6c + 9 = 0$

10.  $5x^2 - 14x + 8$

11.  $x^2 - 49 = 0$

12.  $7k^2 = 7k$

13. Consider a rectangle with a width expressed as  $(x + 3)$  feet and a length expressed as  $(x + 8)$  feet. Find the exact value of the width and length given the rectangle's area is  $234 \text{ ft}^2$ .



Find the solutions of the quadratics.

1.  $x^2 + 5x + 6 = 0$

$x = -2, x = 3$

2.  $x^2 - x - 12 = 0$

$x = -3, x = 4$

3.  $a^2 - 9a + 18 = 0$

$a = 3, a = 6$

4.  $t^2 + 2t - 19 = 5$

$t = -6, t = 4$

5.  $x^2 + 15x + 30 = -6$

$x = -3, -12$

6.  $d^2 + 10d = -6$

$d = -8, d = -2$

7.  $2x^2 + 6x + 4 = 0$

$x = -2, x = -1$

8.  $3a^2 - 12a = 15$

$x = a = 5, a = -1$

9.  $c^2 - 6c + 9 = 0$

$c = 3$

10.  $5x^2 - 14x + 8$

$x = \frac{4}{5}, x = 2$

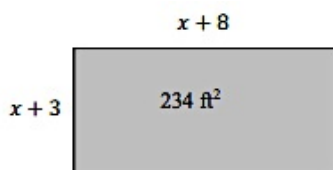
11.  $x^2 - 49 = 0$

$x = -7, x = 7$

12.  $7k^2 = 7k$

$k = 0, 1$

13. Consider a rectangle with a width expressed as  $(x + 3)$  and a length expressed as  $(x + 8)$ . Find the exact value of the width and length given the rectangle's area is  $234 \text{ ft}^2$ .



Width is 13 feet. Length is 18 feet.