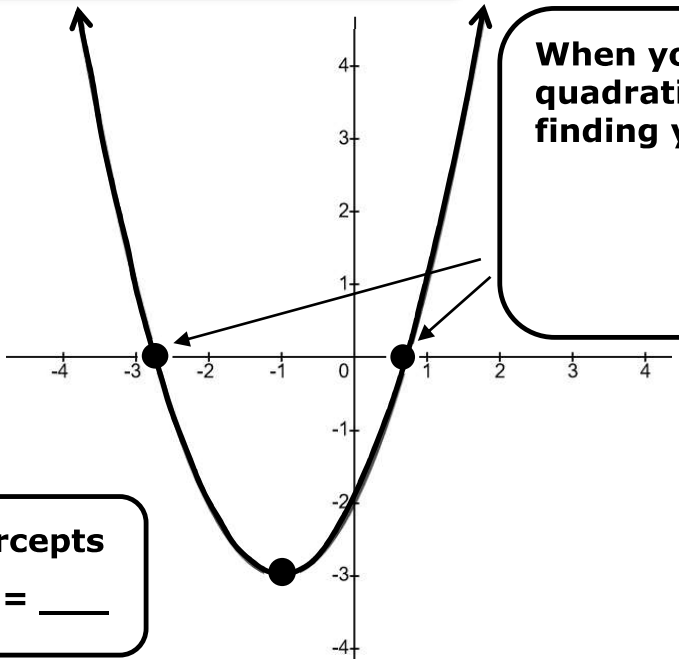
Name:_____ Date:_____Period:_____

NOTES: SOLVE QUADRATICS BY Factoring

What does it mean to SOLVE a Quadratic?

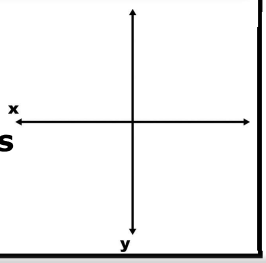


When you solve a quadratic, you are finding your:

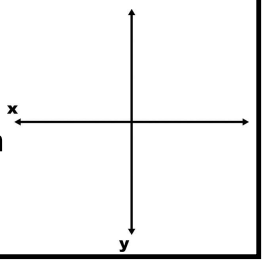
Your x-intercepts are when y = ____

Number of Solutions

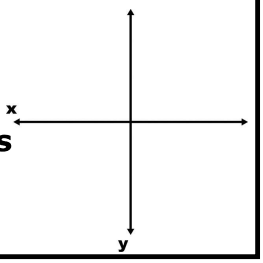
0 **solutions**



1 **solution**



2 **solutions**



Zero Product Property

If $x \cdot y = 0$, then _____

_____

If $3x = 0$, then

If $\underline{2x}(\underline{x - 4}) = 0$, then 2x must equal zero and/or (x – 4) must equal zero.

Use the Zero Product Property to Solve Quadratics

1. $(x + 4)(x + 5) = 0$

{ , }

2. $(x - 3)(x + 7) = 0$

{ , }

3. $(3x - 2)(2x + 5) = 0$

{ , }

Steps to Solve a Quadratic Equation by Factoring

1. Write the equation in standard form: $ax^2 + bx + c = 0$
2. Next, factor the quadratic equation.
3. Use the zero product property to solve…this means to set each _____ equal to zero and _____.

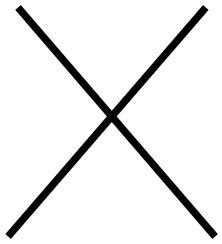
4. $x^2 = 5x$

GCF

{ , }

Basic Trinomial

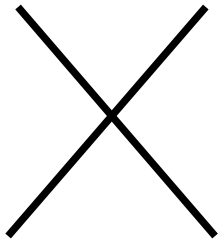
5. $x^2 - 7x + 12 = 0$



{ , }

Trinomial when $a \neq 1$

6. $2x^2 - 3x = 5$



{ , }

Difference of Squares

7. $4x^2 = 25$

{ , }

Name:_____ Date:_____Period:_____

A.__ SOLVE QUADRATICS BY Factoring

Factor each quadratic, if necessary. Then use the zero product property to solve.

1. $x(x - 1) = 0$

2. $(3x - 4)(2x + 1) = 0$

3. $2x(4x + 1) = 0$

4. $(x + 8)(8x - 5) = 0$

5. $3x(1 + 3x) = 0$

6. $(3x + 2)(3x - 2) = 0$

7. $-5x(2x + 9) = 0$

8. $x^2 - 10x + 21 = 0$

9. $x^2 - 7x = 0$

10. $25x^2 - 16 = 0$

11. $x^2 - 9x + 18 = 0$

12. $2x^2 - 9x + 10 = 0$

13. $2x^2 - 50 = 0$

Be sure to factor out a GCF first!

14. $2x^2 - 17x - 30 = 0$