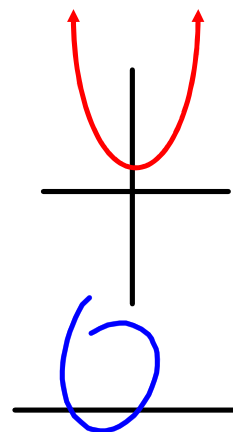
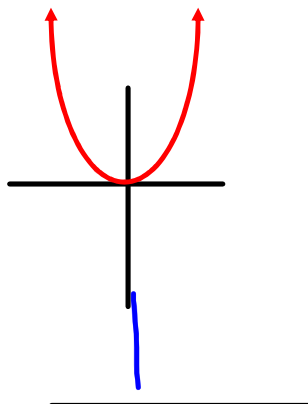
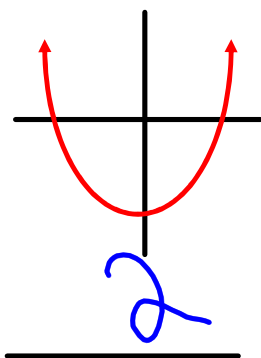


QUADRATICS: ROOTS, ZEROS, SOLUTIONS, X-INT

POINTS WHERE QUADRATICS CROSS X-AXIS

CAN ONLY OCCUR THESE THREE WAYS



QUADRATICS: ROOTS, ZEROS, SOLUTIONS, X-INT

CAN BE FOUND USING 3 METHODS

1. graphing2. factoring3. Quadratic Formula

SOLVING QUADRATICS BY FACTORING

Steps:

1. Make sure the problem is equal to zero.
2. Construct a diamond puzzle.
3. Find the product of ac whose sum is b .
4. Use the two factors to split the middle term into two separate terms.
5. Factor using the grouping.
6. Set each factor equal to zero and solve for the variable.

SOLVING QUADRATICS BY FACTORING

Examples:

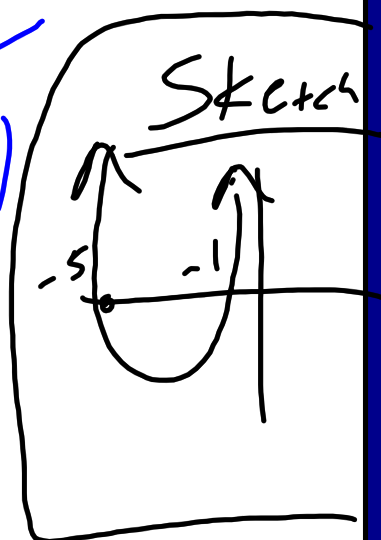
1. $x^2 + 6x + 5 = 0$

$$(x^2 + 3x) + (x + 5) = 0$$

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

$$x + 3 = 0 \quad x + 1 = 0$$

$$x = -3, -1$$



SOLVING QUADRATICS BY FACTORING

2. $m^2 + 4m = 21$

$-21 -21$

$$\begin{array}{r} -21 \\ -3 \quad 7 \\ \hline 4 \end{array}$$

$m = 3, -7$

$m^2 + 4m - 21 = 0$

$(m^2 - 3m) + (7m - 21) = 0$

$m(m - 3) + 7(m - 3) = 0$

$m - 3 = 0 \quad m + 7 = 0$

