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3.) $y = x^2 - 2x$ ^{quadratic}

line $\rightarrow y = x$

2 solutions
 $(0, 0)$ & $(3, 3)$
 x, y x, y

$$\begin{array}{r} x^2 - 2x = x \\ -1x \quad -x \\ \hline \end{array}$$

2 terms
factor
gcf \rightarrow

$$x^2 - 3x = 0$$

$$x(x - 3) = 0$$

$$x = 0 \quad | \quad x = 3$$

$y = x$	$y = x$
$y = 0$	$y = 3$

* check w/ graphing calc

4.) $y = x^2 + 5$

$y = x + 5$
deplace

2 solutions
 $(0, 5)$ & $(1, 6)$
 x, y x, y

$$\begin{array}{r} x^2 + 5 = x + 5 \\ -x \quad -5 \quad -x \quad -5 \\ \hline \end{array}$$

$$x^2 - x = 0$$

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

$$x = 0 \quad | \quad x = 1$$

$y = x + 5$	$y = x + 5$
$y = 0 + 5$	$y = 1 + 5$
$y = 5$	$y = 6$

* check w/ graphing calc.

5) $y = x^2 - 4x + 3$

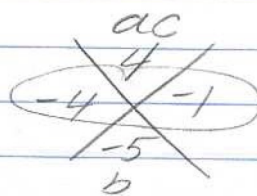
$y = x - 1$
replace

$x^2 - 4x + 3 = x - 1$
 $-1x + 1 \quad -x + 1$

3 terms factor

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

$(x - 4)(x - 1) = 0$



$x = 4$
 $y = x - 1$
 $y = 4 - 1$
 $y = 3$

$x = 1$
 $y = x - 1$
 $y = 1 - 1$
 $y = 0$

*now solve for y

2 solutions
 $(4, 3)$ & $(1, 0)$
x y x, y

10) $y = 2x^2 - 6x + 5$

$y = x + 2$
replace

$2x^2 - 6x + 5 = x + 2$
 $-1x - 2 \quad -x - 2$

3 terms factor

$2x^2 - 7x + 3 = 0$

$(2x^2 - 1x) + (-6x + 3) = 0$

$x(2x - 1) - 3(2x - 1) = 0$

$(x - 3)(2x - 1) = 0$

$x = 3$

$2x - 1 = 0$
 $+1 \quad +1$

$y = x + 2$
 $y = 3 + 2$
 $y = 5$

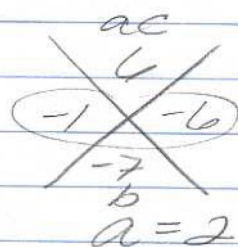
$(3, 5)$

$2x = 1$
 $x = \frac{1}{2}$

$x = \frac{1}{2}$

$y = x + 2$
 $y = \frac{1}{2} + 2$
 $y = 2.5$ or $\frac{5}{2}$

$(\frac{1}{2}, \frac{5}{2})$
x y



a = 2

grouping
or
box method
or
bottoms up

2 solutions

$(x - \frac{1}{2})(x - 3) = 0$
 $(2x - 1)(x - 3) = 0$
 $x = \frac{1}{2} \quad x = 3$