Name

Alg I

9.7 Solve Systems with Quadratic Equations

I can solve systems that include a quadratic equation.

Ch. 9 Quiz

Example 1/2:

1) $y = x + 4$

$y = 2x^2 - 3x - 2$

$x + 4 = 2x^2 - 3x - 2$

$-x - 4 \qquad -x - 4$

$0 = 2x^2 - 4x - 6$

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

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

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

$+3 \; +3 \quad | \quad -1 \; -1$

$x = 3 \quad | \quad x = -1$

$y = x + 4$

$y = 3 + 4$

$y = 7$

(3, 7)

$y = x + 4$

$y = -1 + 4$

$y = 3$

(−1, 3)

2) $y = x + 1$

$y = -x^2 + 6x + 1$

$x + 1 = -x^2 + 6x + 1$

$-x - 1 \qquad -x - 1$

$0 = -x^2 + 5x$

$0 = -x(x - 5)$

$x = 0 \quad | \quad x - 5 = 0$

$+5 \; +5$

$x = +5$

$y = x + 1$

$y = 0 + 1$

$y = 1$

(0, 1)

$y = x + 1$

$y = +5 + 1$

$y = 6$

(+5, 6)

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3) $y = x^2 - 6x + 11$

$y = x + 1$

$x^2 - 6x + 11 = x + 1$

$-x \quad -1 \qquad -x \quad -1$

$x^2 - 7x + 10 = 0$

$(x-5)(x-2) = 0$

$x - 5 = 0 \quad | \quad x - 2 = 0$

$+5 \; +5 \quad | \quad +2 \; +2$

$x = 5 \quad | \quad x = 2$

$y = x + 1$ $\qquad$ $y = x + 1$

$y = 5 + 1$ $\qquad$ $y = 2 + 1$

$y = 6$ $\qquad$ $y = 3$

$(5, 6)$ $\qquad$ $(2, 3)$

Example 3:

4) $x + 3 = 2x^2 + 3x - 1$

$-x - 3 \qquad -x - 3$

$y = x + 3$

$y = 2x^2 + 3x - 1$

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

$0 = 2(x^2 + x - 2)$

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

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

$-2 \; -2 \quad | \quad +1 \; +1$

$x = -2 \quad | \quad x = 1$

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5) $x^2+7x+4 = 2x+4$

$-2x-4 \quad -2x-4$

$x^2+5x=0$

$x(x+5)=0$

$x=0$ | $x+5=0$

$-5 \quad -5$

$x=-5$

$y=x^2+7x+4$

$y=2x+4$

6) $8 = x^2-4x+3$

$-8 \quad -8$

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

$0=(x-5)(x+1)$

$x-5=0$ | $x+1=0$

$+5 \quad +5$ | $-1 \quad -1$

$x=5$ | $x=-1$

$y=8$

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