

Review

Approaching

1) Determine the values of a , b , and c for each quadratic equation.

Equation	a	b	c
$y = -9x^2 - 4 + 11x$	-9	11	-4
$y = -5x + 6x^2 - 12$	6	-5	-12
$y = -1 - x^2 + 10x$	-1	10	-1

2) Solve using square roots:

$$\sqrt{x^2 = 144}$$

$$x = -12, x = 12$$

Meeting

3) Ashleigh determines the roots for the quadratic equation $2x^2 + 3x - 9 = -10$. Her work is shown.

$2x^2 + 3x - 9 = -10$

$a = 2, b = 3, c = 1$

$x = \frac{3 \pm \sqrt{3^2 - 4(2)(1)}}{2(2)}$

$x = \frac{3 \pm \sqrt{9 - 8}}{4}$

$x = \frac{3 \pm \sqrt{1}}{4}$

$x = \frac{(3 \pm 1)}{4}$

$x = 1$ or 0.5

The roots are approximately 1 and 0.5.

She did not set it = to 0 to begin with.

$2x^2 + 3x - 9 = -10$
 $+10 \quad +10$

$2x^2 + 3x + 1 = 0$
 $a = 2, b = 3, c = 1$

$x = \frac{-3 \pm \sqrt{(3)^2 - 4(2)(1)}}{2(2)}$

$x = \frac{-3-1}{4}$

$= \frac{-4}{4}$

$x = \frac{-3+1}{4}$

$= \frac{-2}{4}$

$x = -1, x = -0.5$

a) What did Ashleigh do incorrectly?

She did not take the opposite of b.

b) Determine the roots for the given quadratic equation using the Quadratic Formula. Show your work.

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4) Solve by factoring.

a) $x^2 - 8x - 48 = 0$

$$(x+4)(x-12) = 0$$

$$\begin{array}{r} x+4=0 \quad x-12=0 \\ -4 \quad -4 \quad +12 \quad +12 \end{array}$$

$$\boxed{x = -4, x = 12}$$

b) $x^2 - 14x + 40 = 0$

$$(x-4)(x-10) = 0$$

$$\begin{array}{r} x-4=0 \quad x-10=0 \\ +4 \quad +4 \quad +10 \quad +10 \end{array}$$

$$\boxed{x = 4, x = 10}$$

Exemplary

5) Determine the roots of the equation $x^2 - 10x - 22 = 2$ by completing the square.

$$\begin{array}{r} x^2 - 10x - 22 = 2 \\ +22 \quad +22 \end{array}$$

$$x^2 - 10x + \underline{25} = 24 + \underline{25}$$

$$\left(\frac{-10}{2}\right)^2$$

$$\sqrt{(x-5)^2} = \pm\sqrt{49}$$

$$\begin{array}{r} x-5 = -7, \quad x-5 = 7 \\ +5 \quad +5 \quad +5 \quad +5 \end{array}$$

$$\boxed{x = -2, x = 12}$$