

Bell Work

A-REI.3.6

In a basketball game, Marlene made 16 field goals. Each of the field goals was worth either 2 points or 3 points, and Marlene scored a total of 39 points from field goals. Let x represent the number of two-point field goals and y to model the situation.

How many three-point field goals did Marlene make in the game?

$$-2(x+y) = 16$$

$$2x + 3y = 39$$

$$\begin{array}{r} -2x - 2y = -32 \\ 2x + 3y = 39 \\ \hline y = 7 \end{array}$$

7 3 point field goals

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The Quadratic Formula

- a formula used to solve a quadratic function written in standard form: $ax^2 + bx + c$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

With your shoulder partner: Make a list of steps that will help to solve the quadratic formula.

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$$1) 2n^2 - 6n = 8$$

$$2n^2 - 6n - 8 = 0$$

$$A=2 \quad B=-6 \quad C=-8$$

$$\frac{-(-6) \pm \sqrt{(-6)^2 - 4(2)(-8)}}{2(2)}$$

$$\frac{6 \pm \sqrt{36 + 64}}{4}$$

$$\frac{6 \pm \sqrt{100}}{4} = \frac{6 \pm 10}{4}$$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

\pm means plus or minus

$$\frac{6+10}{4} = \frac{16}{4} = 4$$

$$\frac{6-10}{4} = \frac{-4}{4} = -1$$

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$$2) 3n^2 + 10n = 5$$

$$3n^2 + 10n - 5 = 0$$

$$A=3 \quad B=10 \quad C=-5$$

$$\frac{-10 \pm \sqrt{(10)^2 - 4(3)(-5)}}{2(3)}$$

$$\frac{-10 \pm \sqrt{100 + 60}}{6}$$

$$\frac{-10 \pm \sqrt{160}}{6}$$

$$= \frac{-10 \pm 12.65}{6}$$

$$\frac{-10 + 12.65}{6} = \frac{2.65}{6}$$

$$= 0.44$$

$$\frac{-10 - 12.65}{6} = \frac{-22.65}{6} = -3.78$$

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