Find the solutions to this quadratic equation using the Quadratic Formula. Round to the nearest hundredth as necessary.

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

$$6x^2 + 7x - 20 = 0$$

1st: Find $b^2 - 4ac$ = 529

2nd: Rewrite the Quadratic Formula Using this value in place of b^2 - 4ac and replace 2a with its value

$$\frac{-7 \pm \sqrt{529}}{12}$$

3rd: Calculate the two answers

x = 1.33, -2.5

Find the EXACT Solutions.

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

$$6x^2 + 7x - 20 = 0$$

1st: Find $b^2 - 4ac$ = 529

2nd: Rewrite the Quadratic Formula Using this value in place of b^2 - 4ac and replace 2a with its value

$$\frac{-7 \pm \sqrt{529}}{12}$$

3rd: Calculate the two answers

$$\frac{-7 \pm \sqrt{529}}{12} = \frac{-7 \pm 23}{12} = \frac{16}{12}, \frac{-30}{12} = \frac{4}{3}, \frac{-5}{2}$$

Find the EXACT Solutions.

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

$$x^2 - 5x + 3 = 0$$

$b^2 - 4ac =$ 13

$$\frac{5 \pm \sqrt{13}}{2}$$

Since 13 is not a perfect square and the radical can't be simplified this is all you can do without rounding to get an answer.

Find both the Exact solutions and solutions rounded to the nearest hundredth.

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

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

$b^2 - 4ac =$ 65

$$\frac{-3 \pm \sqrt{65}}{4}$$

Exact Solutions

1.27, -2.77

Solutions rounded to nearest hundredth.

Simplify each radical.

1. $\sqrt{75} = \sqrt{25 \cdot 3}$

$= 5\sqrt{3}$

2. $\sqrt{32} \rightarrow \sqrt{16 \cdot 2}$

$4\sqrt{2}$

$\sqrt{4 \cdot 8}$

$2\sqrt{8}$

$2\sqrt{4 \cdot 2} = 2 \cdot 2\sqrt{2} = 4\sqrt{2}$

3. $\sqrt{108} = \sqrt{36 \cdot 3}$

$6\sqrt{3}$

4. $\sqrt{486}$

$\sqrt{81 \cdot 6}$

$9\sqrt{6}$

Find the Exact solutions.

$x^2 - 10x + 13 = 0$

$x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$b^2 - 4ac = 48$

$\sqrt{48} = \sqrt{16 \cdot 3}$

$= 4\sqrt{3}$

$\dfrac{10 \pm \sqrt{48}}{2} = \dfrac{10 \pm 4\sqrt{3}}{2}$

$= 5 \pm 2\sqrt{3}$