Bellwork Alg 2A Monday, March 27, 2017

Find all EXACT Complex solutions (real and imaginary) for each quadratic equation. You must use each of the following methods at least once: Factoring, Square Roots, Quadratic Formula, and Completing the Square.

1.
$$2x^2 - 6x = 56$$

2.
$$x^2 - 4x = -13$$

3.
$$2(x-8)^2 + 13 = 63$$

4.
$$4x^2 - 4x + 19 = 0$$

5.
$$x^2 + 10x - 24 = 0$$

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Find all EXACT Complex solutions (real and imaginary) for each quadratic equation. You must use each of the following methods at least once: Factoring, Square Roots, Quadratic Formula, and Completing the Square.

1. $\frac{2x^2 - 6x}{2} = \frac{56}{2}$ $x^2 - 3x = 28$ $x^2 - 3x - 28 = 0$ (x-7)(x+4) = 0

3.
$$2(x-8)^2 + 13 = 63$$
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$$\frac{2(x-8)^2 - 3}{2} = \frac{52}{2} \qquad (x = 13, 3)$$

$$\frac{2(x-8)^2 - 52}{2} = \frac{13}{2}$$

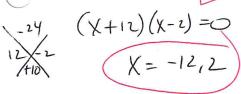
$$\frac{2(x-8)^2 - 52}{2} = \frac{13}{2}$$

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$$\frac{2(x-8)^2 - 13}$$

5.
$$x^2 + 10x - 24 = 0$$



2.
$$x^{2}-4x = -13$$
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 $(x-2)^{2} = \sqrt{-9x} + 4$
 $(x-2)^{2} = \sqrt{-9x} + 4$
 $(x-2)^{2} = \sqrt{-9x} + 4$
 $(x-2)^{2} = \sqrt{-9x} + 3i$
 $(x-2)^{2} = \sqrt{-9x} + 2i$

4.
$$4x^{2}-4x+19=0$$
 [Quad Formula]
$$b^{2}-4ac = -288$$

$$X = \frac{4 \pm \sqrt{-288} \rightarrow -199.2}{8}$$

$$X = \frac{4 \pm 12i\sqrt{2}}{8}$$

$$X = \frac{1 \pm 3i\sqrt{2}}{8}$$

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