Bellwork   Alg 2A   Thursday, March 16, 2017

Find all real EXACT solutions to each quadratic equation. Use Factoring, Square Roots, and the Quadratic Formula. Each method must be used once.
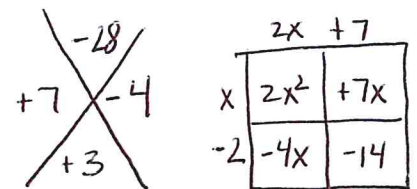
1. $9x^2 - 6x = 19$

2. $2x^2 + 3x - 14 = 0$

3. $7x^2 - 31 + x^2 = 449$

1. $9x^2 - 6x = 19$ (QUAD FORM)

$9x^2 - 6x - 19 = 0$

$b^2 - 4ac = 720$

$\dfrac{6 \pm \sqrt{720}}{18}$ 144.5 $= \dfrac{6 \pm 12\sqrt{5}}{18} = \boxed{\dfrac{1 \pm 2\sqrt{5}}{3}}$

2. $2x^2 + 3x - 14 = 0$ (FACTOR)

-28

+7 X -4

+3

x	2x	+7
x	$2x^2$	$+7x$
-2	$-4x$	-14

$(2x + 7)(x - 2) = 0$

$\boxed{x = -\tfrac{7}{2}, 2}$

3. $7x^2 - 31 + x^2 = 449$ (SQ ROOTS)

$8x^2 - 31 = 449 \quad {}_{+31}$
$\qquad {}_{+31}$

$\dfrac{8x^2}{8} = \dfrac{480}{8}$

$\sqrt{x^2} = \sqrt{60}$

$x = \pm\sqrt{60} \quad \rightarrow \quad \boxed{x = \pm 2\sqrt{15}}$

4.15

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