Algebra 1   Bellwork   Tuesday, May 24, 2016

1. Find the EXACT solutions to each equation using square roots.

a) $2x^2 + 8 = 56$

b) $(x-3)^2 - 5 = 76$

2. Factor each completely.
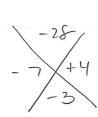
a) $3x^3 - 9x^2 - 84x$

b) $8x^2 + 2x - 15$

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1. Find the EXACT solutions to each equation using square roots.

a) $2x^2 + 8 = 56$

$$-8 \quad -8$$

$$\frac{2x^2}{2} = \frac{48}{2}$$

$$\sqrt{x^2} = \sqrt{24} = \sqrt{4 \cdot 6}$$

$$\boxed{x = \pm 2\sqrt{6}}$$

b) $(x-3)^2 - 5 = 76$

$$+5 \quad +5$$

$$\sqrt{(x-3)^2} = \sqrt{81}$$

$$x - 3 = \pm 9$$

$$x = 9 + 3$$

$$x = -9 + 3$$

$$\boxed{x = -6, 12}$$

2. Factor each completely.

a) $3x^3 - 9x^2 - 84x$

$$3x(x^2 - 3x - 28)$$

$$\boxed{3x(x-7)(x+4)}$$

-28

-7 +4

-3

b) $8x^2 + 2x - 15$

$$\boxed{(4x-5)(2x+3)}$$

-120

12 -10

2

	$2x$	$+3$
$4x$	$8x^2$	$+12x$
-5	$-10x$	-15

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