Bellwork Alg 2 Wednesday, October 3, 2018

Solve each equation by factoring.

1. $-2x^2 + 24 = 13x$

2. $12x^4 + 18x^3 - 72x = 48x^2$

Find all real solutions using square roots.

3. $3x^2 - 47 = 1$

4. $75 + 2x^2 = 3$

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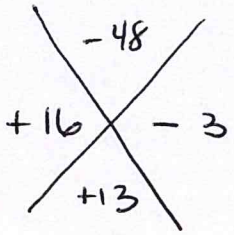
Answers

Solve each equation by factoring.

1. $-2x^2 + 24 = 13x$

$+2x^2 \quad -24 \qquad +2x^2 \quad -24$

$0 = 2x^2 + 13x - 24$



$\Rightarrow$

	x	$+8$
$2x$	$2x^2$	$+16x$
-3	$-3x$	-24

$0 = (2x-3)(x+8)$

$x = -8, \frac{3}{2}$

2. $12x^4 + 18x^3 - 72x = 48x^2$

$-48x^2 \qquad -48x^2$

$12x^4 + 18x^3 - 48x^2 - 72x = 0$

$6x(2x^3 + 3x^2 - 8x - 12) = 0$

	$2x$	$+3$
x^2	$2x^3$	$+3x^2$
-4	$-8x$	-12

$6x(2x+3)(x^2-4) = 0$

$6x(2x+3)(x+2)(x-2) = 0$

$x = -\frac{3}{2}, 0, \pm 2$

Find all real solutions using square roots.

3. $3x^2 - 47 = 1$

$+47 \quad +47$

$\frac{3x^2}{3} = \frac{48}{3}$

$\sqrt{x^2} = \sqrt{16}$

$x = \pm 4$

4. $75 + 2x^2 = 3$

$-75 \qquad -75$

$\frac{2x^2}{2} = \frac{-72}{2}$

$\sqrt{x^2} = \sqrt{-36}$

No Real Solutions