Algebra 1 Bellwork Thursday, May 26, 2016

Solve each quadratic equation by factoring.
Remember to follow these steps:

a. Rewrite equation so that is has this form: $ax^2 + bx + c = 0$
b. Factor completely.
c. Find the zeros of each factor.

1. $16x^3 + 36x^2 = 10x$

2. $-54x = -3x^2 - 243$

3. $3x^3 - 2x^2 + 32 = 48x$

4. $42x^2 + 24x = 0$

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Answers

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1. $16x^3 + 36x^2 = 10x$

$16x^3 + 36x^2 - 10x = 0$

$2x(8x^2 + 18x - 5) = 0$

$2x(4x - 1)(2x + 5) = 0$

$x = 0, 1/4, -5/2$

2. $-54x = -3x^2 - 243$

$3x^2 - 54x + 243 = 0$

$3(x^2 - 18x + 81) = 0$

$3(x - 9)^2 = 0$

$x = 9$

3. $3x^3 - 2x^2 + 32 = 48x$

$3x^3 - 2x^2 - 48x + 32 = 0$

	$3x$	-2
x^2	$3x^3$	$-2x^2$
-16	$-48x$	$+32$

$(3x - 2)(x^2 - 16) = 0$

$(3x - 2)(x \pm 4) = 0$

$x = 2/3, \pm 4$

4. $42x^2 + 24x = 0$

$6x(7x + 4) = 0$

$x = 0, -\frac{4}{7}$