2. Factorize completely the following quadratic polynomials.

CCSS Translating

Example $4x^2 - 12$ $= 4(x^2) - (4)(3)$ $= 4(x^2 - 3)$	(a) $3x^2 + 6$ =	(b) $4x^2 - 12$ =
(c) $-10 + 30x^2$ =	(d) $24 + 8x^2$ =	(e) $-7x^2 - 42$ =

$4(x^2 - 3)$	$10(-1 + 3x^2)$	$8(3 + x^2)$	$3(x^2 + 2)$	$-7(x^2 + 6)$

3. Factorize completely the following quadratic polynomials.

CCSS Translating

Example $2x^2 + 10x$ $= (2x)(x) + (2x)(5)$ $= 2x(x + 5)$	(a) $6x^2 - 24x$ =	(b) $40x - 50x^2$ =
(c) $-5x^2 - 20x$ =	(d) $11x - 55x^2$ =	(e) $-8x^2 + 24x$ =

$-5x(x + 4)$	$6x(x - 4)$	$-8x(x - 3)$	$11x(1 - 5x)$	$10x(4 - 5x)$

LIVEWORKSHEETS

4. Solve the following quadratic polynomial equations.

CCSS Identifying relations

Example $4x^2 - 8 = 0$ $4(x^2 - 2) = 0$ $x^2 - 2 = 0$ $x^2 = 2$ $x = \sqrt{2}$ or $x = -\sqrt{2}$	(a) $5x^2 = 5$	(b) $16 - 2x^2 = 0$
(c) $100 - 10x^2 = 0$	(d) $36x^2 - 24 = 0$	(e) $4x^2 = 52$

$x = \sqrt{8}$ or $x = -\sqrt{8}$	$x = \sqrt{\frac{2}{3}}$ or $x = -\sqrt{\frac{2}{3}}$
$x = \sqrt{10}$ or $x = -\sqrt{10}$	$x = 1$ or $x = -1$
$x = \sqrt{13}$ or $x = -\sqrt{13}$	

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