

2. Factorize completely the following quadratic polynomials.

 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.

 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) $-8x^2 + 24x$ =

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

4. Solve the following quadratic polynomial equations.

ccts >> Identifying relations

Example $4x^2 - 8 = 0$

$$4(x^2 - 2) = 0$$

$$x^2 - 2 = 0$$

$$x^2 = 2$$

$$x = \sqrt{2} \text{ or } x = -\sqrt{2}$$

(a) $5x^2 = 5$

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

(c) $100 - 10x^2 = 0$

(d) $36x^2 - 24 = 0$

(e) $4x^2 = 52$

$$x = \sqrt{8} \text{ or } x = -\sqrt{8}$$

$$x = \sqrt{\frac{2}{3}} \text{ or } x = -\sqrt{\frac{2}{3}}$$

$$x = \sqrt{10} \text{ or } x = -\sqrt{10}$$

$$x = 1 \text{ or } x = -1$$

$$x = \sqrt{13} \text{ or } x = -\sqrt{13}$$