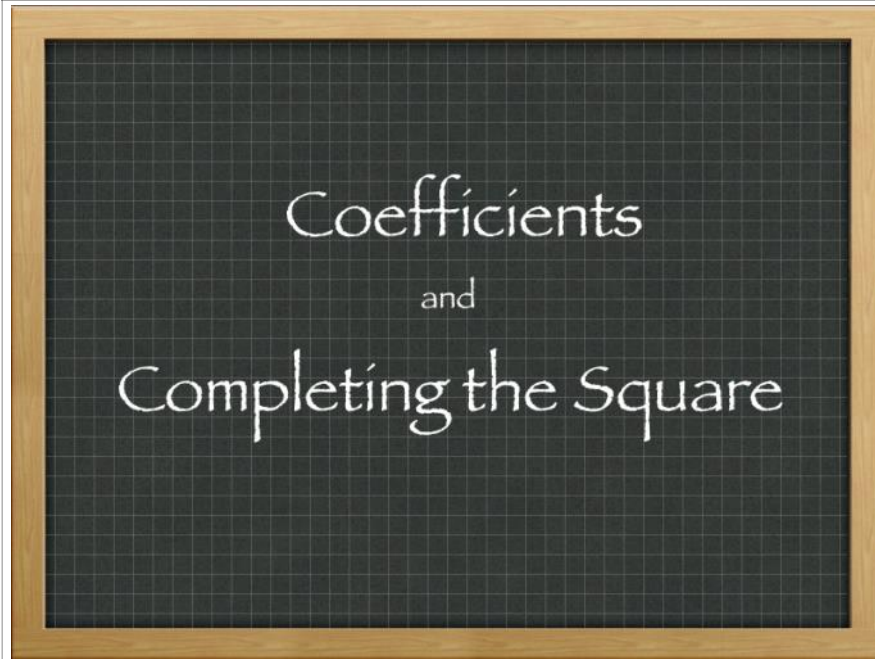


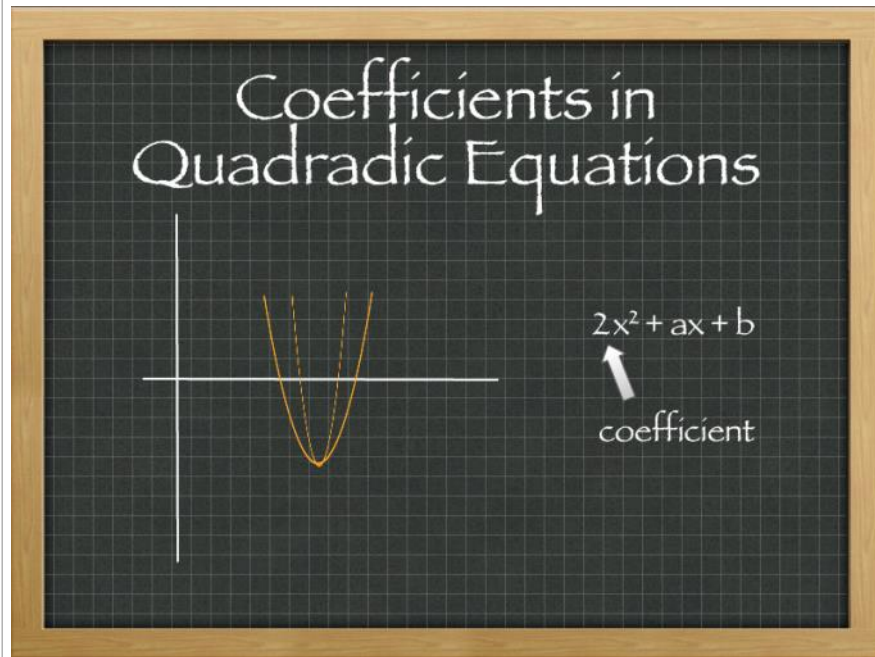
Coefficients and Completing the Square

Thursday, January 19, 2012
5:14 PM

Slide



Notes



This lesson introduces the use of coefficients in quadratic equations. These are numbers added to the front of the squared variable.

What do coefficients do exactly? Graphically, they indicate how wide the smile or frown is for the quadratic. It controls how steep the curve is.

$$\frac{2x^2 + 12x - 8}{2} = 0$$

$$x^2 + 6x - 4 = 0$$

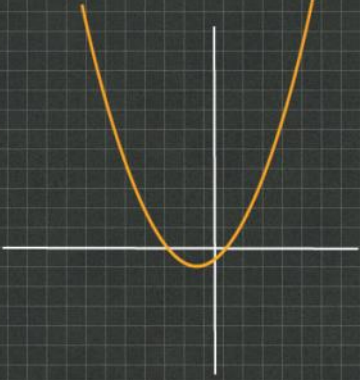
$$(x^2 + 6x \quad) = 4$$

$$\left(\frac{6}{2}\right)^2$$

$$(x^2 + 6x + 9) = 4 + 9$$

$$(x + 3)^2 = 13$$

$$x + 3 = \sqrt{13}$$

$$x = -3 \pm \sqrt{13}$$


In these, the first step is to divide off the coefficient from every term. Once it is gone, the process of completing the square is exactly the same as you have already learned how to do.

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

What does the equation simplify down to just after dividing off the coefficient?

