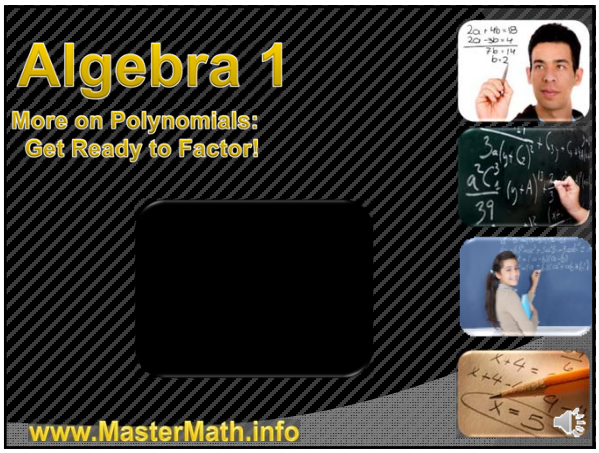
Algebra 1
More on Polynomials:
Get Ready to Factor!
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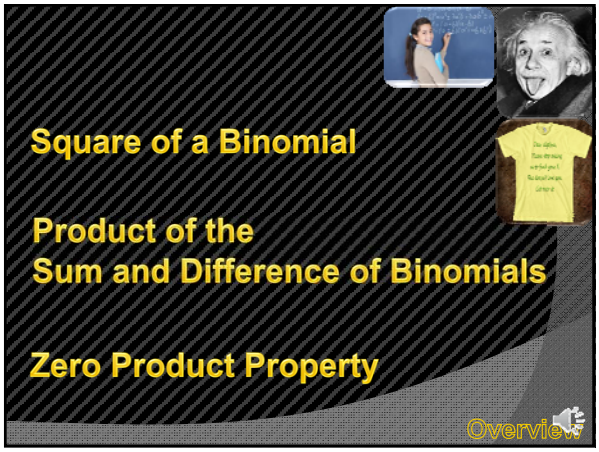
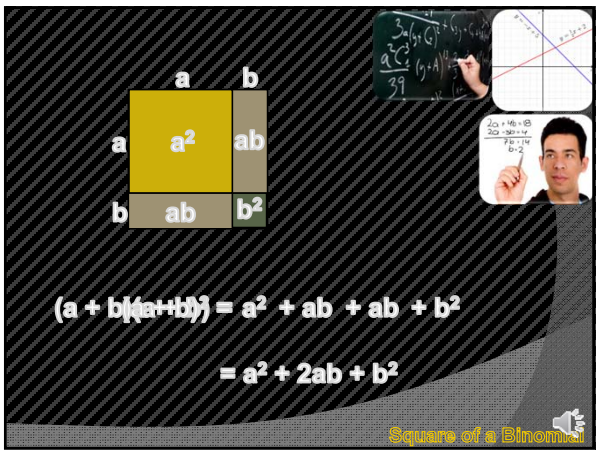
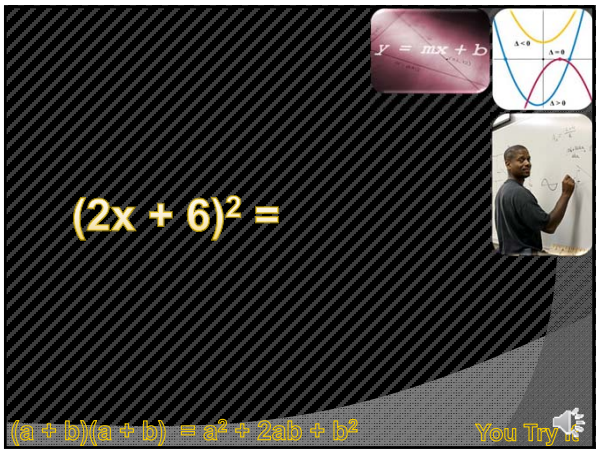
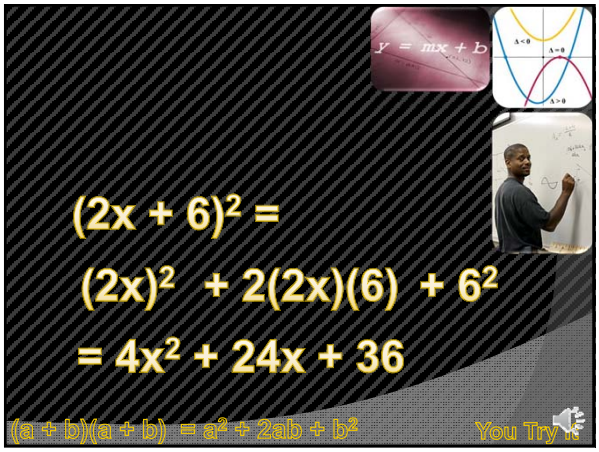
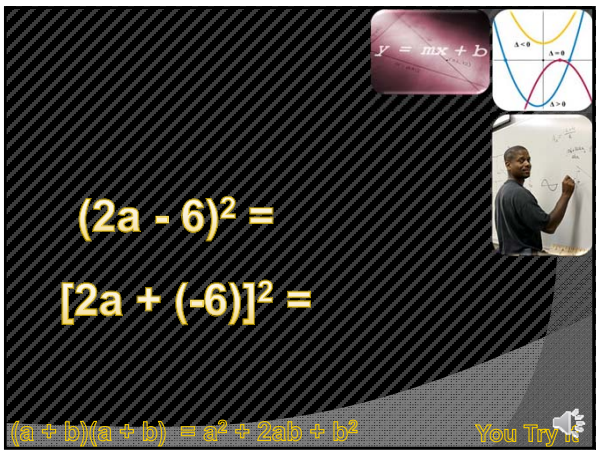
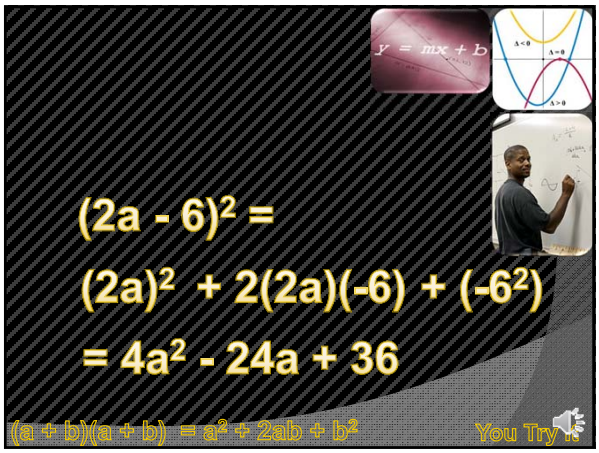

Square of a Binomial
Product of the
Sum and Difference of Binomials
Zero Product Property
Overview

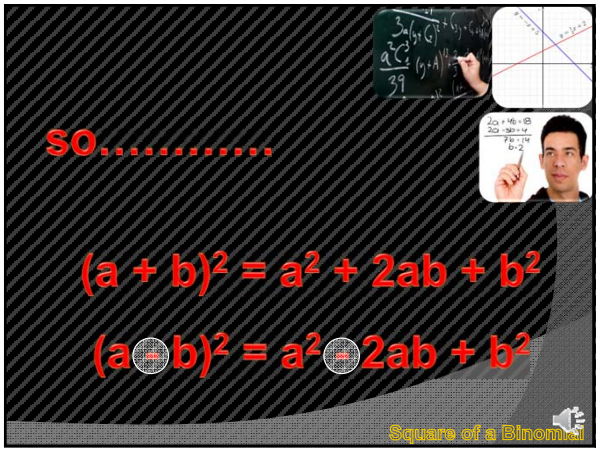

a
b
a
a²
ab
b
ab
b²
(a + b)(a+b) = a² + ab + ab + b²
= a² + 2ab + b²
Square of a Binomial

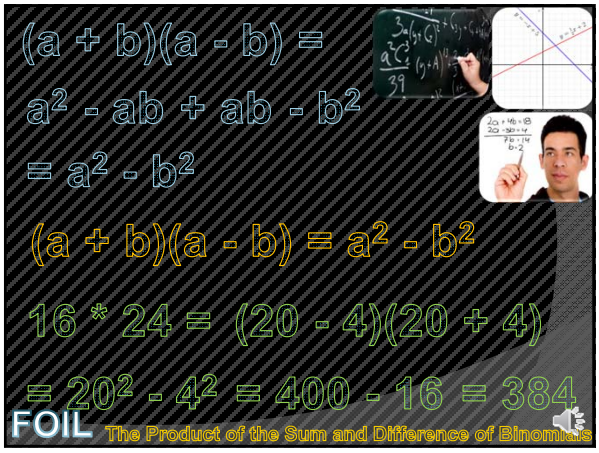

$(2x + 6)^2 =$
$(a + b)(a + b) = a^2 + 2ab + b^2$
You Try It

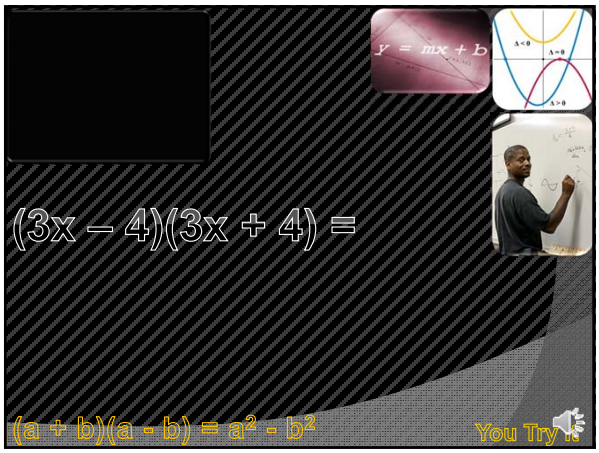

$(2x + 6)^2 =$
$(2x)^2 + 2(2x)(6) + 6^2$
$= 4x^2 + 24x + 36$
$(a + b)(a + b) = a^2 + 2ab + b^2$
You Try It

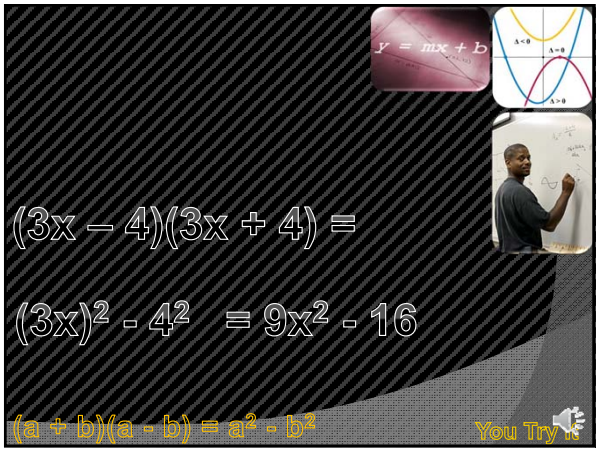

$(2a - 6)^2 =$
$[2a + (-6)]^2 =$
$(a + b)(a + b) = a^2 + 2ab + b^2$
You Try It

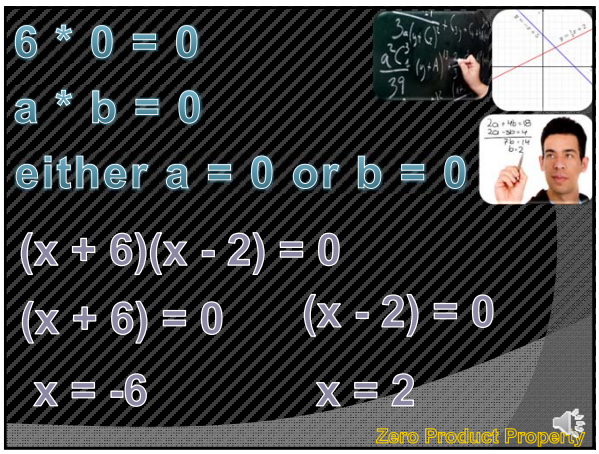

$(2a - 6)^2 =$
$(2a)^2 + 2(2a)(-6) + (-6^2)$
$= 4a^2 - 24a + 36$
$(a + b)(a + b) = a^2 + 2ab + b^2$
You Try !!

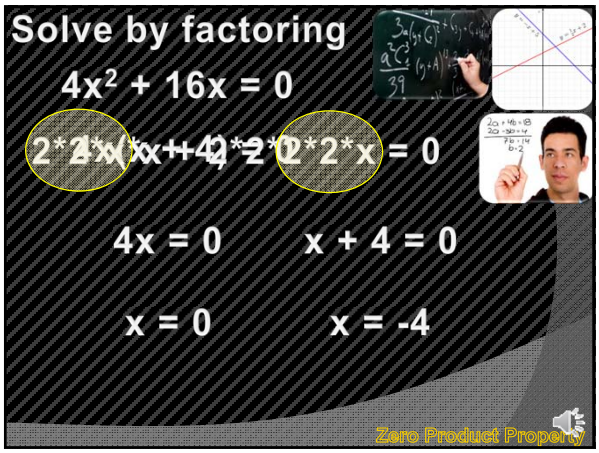

SO.....
$(a + b)^2 = a^2 + 2ab + b^2$
$(a - b)^2 = a^2 - 2ab + b^2$
Square of a Binomial

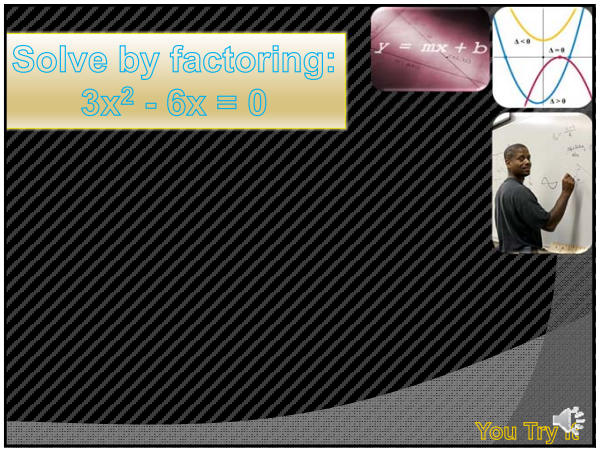

$(a + b)(a - b) =$
$a^2 - ab + ab - b^2$
$= a^2 - b^2$
$(a + b)(a - b) = a^2 - b^2$
$16 * 24 = (20 - 4)(20 + 4)$
$= 20^2 - 4^2 = 400 - 16 = 384$
FOIL
The Product of the Sum and Difference of Binomials


(3x – 4)(3x + 4) =
(a + b)(a - b) = a² - b²
You Try !!


(3x – 4)(3x + 4) =
(3x)² - 4² = 9x² - 16
(a + b)(a - b) = a² - b²
You Try !!


6 * 0 = 0
a * b = 0
either a = 0 or b = 0
(x + 6)(x - 2) = 0
(x + 6) = 0
(x - 2) = 0
x = -6
x = 2
Zero Product Property


Solve by factoring
$4x^2 + 16x = 0$
$2*2*x*x + 4*2*2*x = 0$
$4x = 0$
$x + 4 = 0$
$x = 0$
$x = -4$
Zero Product Property


Solve by factoring:
$3x^2 - 6x = 0$
You Try It


Solve by factoring:
$3x^2 - 6x = 0$
$3x(x - 2) = 0$
$3x = 0$
$x - 2 = 0$
$x = 0$
$x = 2$
You Try It