3-11-20

Factor the polynomial completely.

1. $3x^3 - 2x^2 + 5x$

2. $8x^2y^3 + 6xy^5 - 2y^6$

Use the tabular model to find the product of

3. $(x - 5)(x + 3)$

Factor the polynomial completely.

1. $3x^3 - 2x^2 + 5x$

$x(3x^2 - 2x + 5)$

2. $8x^2y^3 + 6xy^5 - 2y^6$

$y^3(8x^2 + 6xy^2 - 2y^3)$

$2y^3(4x^2 + 3xy^2 - y^3)$

Use the tabular model to find the product of

3. $(x - 5)(x + 3)$

	x	-5
x	x^2	$-5x$
3	$3x$	-15

$x^2 - 2x - 15$

$3x^2y^5 - 15xy^3$

$3(x^2y^5 - 5xy^3)$

$3y^3(x^2y^2 - 5x)$

$3xy^3(xy^2 - 5)$

$1^2 = 1$

$2^2 = 4$

$3^2 = 9$

$4^2 = 16$

$5^2 = 25$

$6^2 = 36$

$7^2 = 49$

$8^2 = 64$

$9^2 = 81$

$10^2 = 100$

$11^2 = 121$

$12^2 = 144$

Factor the following examples of the difference of perfect squares.

$t^2 - 25$

$(t+5)(t-5)$

$t^2 - 5t + 5t - 25$

$t^2 - 25$

$4x^2 - 9$

$(2x+3)(2x-3)$

$4x^2 - 6x + 6x - 9$

$4x^2 - 9$

$x^2 - 9$

$(x+3)(x-3)$

$x^2 - 3x + 3x - 9$

$x^2 - 9$

$16h^2 - 36k^2$

$(4h+6k)(4h-6k)$

$4 - b^2$

$(2-b)(2+b)$

$x^4 - 4$

$(x^2-2)(x^2+2)$

$x^6 - 25$

$(x^3+5)(x^3-5)$

Write a General Rule for Finding the Difference of Squares

Write $a^2 - b^2$ in factored form.

$(a+b)(a-b)$

Factor each of the following differences of squares completely.

$9y^2 - 100z^2$

$(3y+10z)(3y-10z)$

$a^4 - b^6$

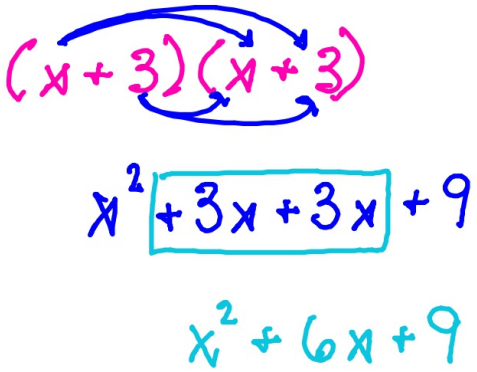
$(a^2+b^3)(a^2-b^3)$

$r^4 - 16s^4$

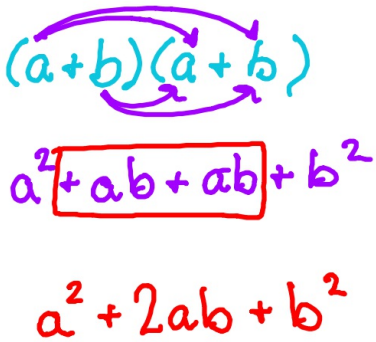
$(r^2+4s^2)(r^2-4s^2)$

The Square of a Binomial

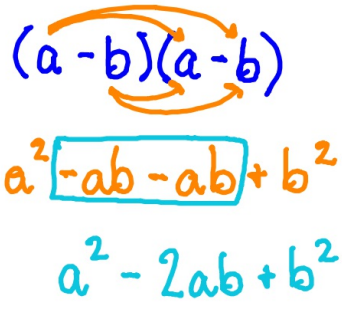
$(x + 3)^2$



$(a + b)^2$



$(a - b)^2$



$(a + 6)^2$

$a^2 + 12a + 36$

$(5 - w)^2$

$25 - 10w + w^2$

$w^2 - 10w + 25$

Factoring is the reverse process of multiplication. When factoring, it is always helpful to look for a GCF that can be pulled out of the polynomial expression. For example, $3ab - 6a$ can be factored as $3a(b - 2)$.

Factor the difference of perfect squares $a^2 - b^2$:

$(a - b)(a + b)$

When squaring a binomial $(a + b)$,

$(a + b)^2 = a^2 + 2ab + b^2$.

When squaring a binomial $(a - b)$,

$(a - b)^2 = a^2 - 2ab + b^2$.