Multiply Monomials
or Find the Product

$5q^2(7q^8)$

$\boxed{35q^{10}}$

$2x^3y^4(x^8y^5)$

$\boxed{2x^{11}y^9}$

Multiply Monomial by Polynomial
or Find the Product

$5q^2(7q^8 + 4q^3)$

$\boxed{35q^{10} + 20q^5}$

$-3y^4(2y^5 + y^2 - 8)$

$\boxed{-6y^9 - 3y^6 + 24y^4}$

Multiply Polynomials
or Find the Product

$(3x + 5)(x - 4)$

$3x^2 - 12x + 5x - 20$

$\boxed{3x^2 - 7x - 20}$

$(3x + 5y)(x - 4y)$

$3x^2 - 12xy + 5xy - 20y^2$

$\boxed{3x^2 - 7xy - 20y^2}$

$(2x - 5)(4x^2 + 6x - 7)$

$8x^3 + 12x^2 - 14x$
$\quad -20x^2 - 30x + 35$

$\boxed{8x^3 - 8x^2 - 44x + 35}$

$2x^3(4x + 3)(5x - 2)$

$\downarrow$

$20x^2 - 8x + 15x - 6$

$2x^3[20x^2 + 7x - 6]$

$\boxed{40x^5 + 14x^4 - 12x^3}$

$2x^3(4x + 3)(5x - 2)$

$(8x^4 + 6x^3)(5x - 2)$

$40x^5 - 16x^4 + 30x^4 - 12x^3$

$\boxed{40x^5 + 14x^4 - 12x^3}$

To the left is the alternate order for multiplying that I showed in the video.

Multiply Polynomials
or Find the Product
These are "Special Products."

$(3y + 7)(3y - 7)$

$9y^2 - 21y + 21y - 49$

$\boxed{9y^2 - 49}$

$(5x + 4)^2$

$(5x + 4)(5x + 4)$

$25x^2 + 20x + 20x + 16$

$\boxed{25x^2 + 40x + 16}$

Mixed Practice: Find the Product

1) $-12y^7(-3y)$

$\boxed{36y^8}$

2) $-4r^3(r^2 - 7)$

$\boxed{-4r^5 + 28r^3}$

3) $(5x^2 - 3)(x^2 - 6x + 4)$

$5x^4 - 30x^3 + 20x^2$
$\qquad - 3x^2 + 18x - 12$

$\boxed{5x^4 - 30x^3 + 17x^2 + 18x - 12}$

4) $(y - 10)(y - 4)$

$y^2 - 4y - 10y + 40$

$\boxed{y^2 - 14y + 40}$

5) $(t - 5)^2$

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

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

$\boxed{t^2 - 10t + 25}$

6) $(x - y)(x + y)$

$x^2 + xy - xy - y^2$

$\boxed{x^2 - y^2}$

7) $(k^2 - 6)(7k + 1)$

$\boxed{7k^3 + k^2 - 42k - 6}$