ex: $x^5 \cdot x^3$

$= xxxxx \cdot xxx$

$= x^8$

Property

$x^m \cdot x^n = x^{m+n}$

#1 $(3a^5b^3)(-2a^1b^4)$

$= -6a^6b^7$

#2 $9y(y^2 - 2y - 5)$

$9y(y^2) + 9y(-2y) + 9y(-5)$

$9y^3 - 18y^2 - 45y$

#3 $\frac{7}{2}xy\left(\frac{8}{14}x^3 - \frac{6}{7}xy + \frac{3}{14}xy^4\right)$

$\frac{1}{2}xy\left(\frac{4}{1}x^3\right) + \frac{1}{2}xy\left(\frac{-3}{1}xy\right) + \frac{1}{2}xy\left(\frac{3}{2}xy^4\right)$

$2x^4y - 3x^2y^2 + \frac{3}{4}x^2y^5$

#4 $(x+7)(x-4)$

$x^2 - 4x + 7x - 28$

$x^2 + 3x - 28$

5. $(8x-1)(x-3)$

$8x(x) + 8x(-3) - 1(x) - 1(-3)$

$8x^2 - 24x - 1x + 3$

$8x^2 - 25x + 3$

6. $(3x-1)(4x^2 + 7x - 2)$

$3x(4x^2) + 3x(7x) + 3x(-2) - 1(4x^2) - 1(7x) - 1(-2)$

$12x^3 + 21x^2 - 6x - 4x^2 - 7x + 2$

$12x^3 + 17x^2 - 13x + 2$

7. $(2x^2 - 3x + 1)(5x^2 + 4x - 7)$

$2x^2(5x^2) + 2x^2(4x) + 2x^2(-7) - 3x(5x^2) - 3x(4x) - 3x(-7) + 1(5x^2) + 1(4x) + 1(-7)$

$10x^4 + 8x^3 - 14x^2 - 15x^3 - 12x^2 + 21x + 5x^2 + 4x - 7$

$10x^4 - 7x^3 - 21x^2 + 25x - 7$