

6.4 SUPERFOIL

Multiplying a binomial and polynomial (not a binomial)

** SUPERFOIL

** Multiply each term in the first parentheses by each term in the second parentheses

Examples:

1. $(2c+1)(2c^2-3c+1)$

$$2c(2c^2)+2c(-3c)+2c(1)+1(2c^2)+1(-3c)+1(1)$$
$$4c^3-6c^2+2c+2c^2-3c+1$$
$$\boxed{4c^3-4c^2-c+1}$$

2. $(x^2+3x+9)(x-3)$

$$x^2(x)+x^2(-3)+3x(x)+3x(-3)+9(x)+9(-3)$$
$$x^3-3x^2+3x^2-9x+9x-27$$
$$x^3-27$$

3. $(y+3)^3$

$$(y+3)(y+3)(y+3)$$
$$[y(y)+y(3)+3(y)+3(3)](y+3)$$
$$(y^2+3y+3y+9)(y+3)$$
$$(y^2+6y+9)(y+3)$$
$$y^2(y)+y^2(3)+6y(y)+6y(3)+9(y)+9(3)$$
$$y^3+3y^2+6y^2+18y+9y+27$$
$$y^3+9y^2+27y+27$$

HOMEWORK

Worksheet - HW 6.4 Superfoil