

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Multiply Polynomials

<p>1. <math>3x^4(4x^3 - 5x^2)</math></p> $12x^7 - 15x^6$	<p>2. <math>(6x-5)(2x-7)</math></p> $12x^2 - 52x + 35$
<p>3. <math>(2x-3)(x^2+2x-3)</math></p> $2x^3 + 4x^2 - 6x - 3x^2 - 6x + 9$ $2x^3 + x^2 - 12x + 9$	<p>4. <math>(3x+2y)(4x+5y)</math></p> $12x^2 + 15xy + 8xy + 10y^2$ $12x^2 + 23xy + 10y^2$
<p>5. <math>(x^2+x-6)(x^2+2x-3)</math></p> $x^4 + 2x^3 - 3x^2 + x^3 + 2x^2 - 3x - 6x^2 - 12x + 18$ $x^4 + 3x^3 - 7x^2 - 15x + 18$	<p>6. <math>(x^2-9)(x^2+9)</math></p> $x^4 - 81$

Use the Binomial Theorem and Pascal's Triangle to write each binomial expansion.

<p>7. <math>(x-5)^3</math> <math>  x^3 + 3x^2(-5) + 3x(-5)^2 + 1(-5)^3</math></p> $x^3 - 15x^2 + 75x - 125$	<p>8. <math>(x-2)^4</math> <math>  x^4 + 4x^3(-2) + 6x^2(-2)^2 + 4x(-2)^3 + 1(-2)^4</math></p> $x^4 - 8x^3 + 24x^2 - 32x + 16$
<p>9. <math>(x+1)^5</math></p> $1x^5 + 5x^4 + 10x^3 + 10x^2 + 5x + 1$ $x^5 + 5x^4 + 10x^3 + 10x^2 + 5x + 1$	<p>10. <math>(2x-3)^3</math></p> $1(2x)^3 + 3(2x)^2(-3) + 3(2x)(-3)^2 + 1(-3)^3$ $8x^3 - 36x^2 + 54x - 27$