Algebra 2
Worksheet 4.2 B

Use Pascal's Triangle to simplify.

1. $(x+2)^3$

$1(x)^3 + 3(x)^2(2)^1 + 3(x)^1(2)^2 + 1(2)^3$

$x^3 + 6x^2 + 12x + 8$

2. $(x-1)^3$

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

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

3. $(x+3)^3$

$1(x)^3 + 3(x)^2(3)^1 + 3(x)^1(3)^2 + 1(3)^3$

$x^3 + 9x^2 + 27x + 27$

4. $(x-2)^3$

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

$x^3 - 6x^2 + 12x - 8$

5. $(x+2)^4$

$1(x)^4 + 4(x)^3(2)^1 + 6(x)^2(2)^2 + 4(x)^1(2)^3 + 1(2)^4$

$x^4 + 8x^3 + 24x^2 + 32x + 16$

6. $(x-4)^4$

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

$x^4 - 16x^3 + 96x^2 - 256x + 256$

7. $(x+3)^4$

$1(x)^4 + 4(x)^3(3)^1 + 6(x)^2(3)^2 + 4(x)^1(3)^3 + 1(3)^4$

$x^4 + 12x^3 + 54x^2 + 108x + 81$

8. $(x+1)^4$

$1(x)^4 + 4(x)^3(1)^1 + 6(x)^2(1)^2 + 4(x)^1(1)^3 + 1(1)^4$

$x^4 + 4x^3 + 6x^2 + 4x + 1$

9. $(x+2)^5$

$1(x)^5 + 5(x)^4(2)^1 + 10(x)^3(2)^2 + 10(x)^2(2)^3 + 5(x)^1(2)^4 + 1(2)^5$

$x^5 + 10x^4 + 40x^3 + 80x^2 + 80x + 32$

10. $(x+3)^5$

$1(x)^5 + 5(x)^4(3)^1 + 10(x)^3(3)^2 + 10(x)^2(3)^3 + 5(x)^1(3)^4 + 1(3)^5$

$x^5 + 15x^4 + 90x^3 + 270x^2 + 405x + 243$

11. $(x-3)^5$

$1(x)^5 + 5(x)^4(-3)^1 + 10(x)^3(-3)^2 + 10(x)^2(-3)^3 + 5(x)^1(-3)^4 + 1(-3)^5$

$x^5 - 15x^4 + 90x^3 - 270x^2 + 405x - 243$

12. $(x+4)^5$

$1(x)^5 + 5(x)^4(4)^1 + 10(x)^3(4)^2 + 10(x)^2(4)^3 + 5(x)^1(4)^4 + 1(4)^5$

$x^5 + 20x^4 + 160x^3 + 640x^2 + 1280x + 1024$