



18. Expand and simplify.

$$\text{a) } (x - 2)^3$$

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

$$\text{b) } (2y + 5)^3$$

$$(8y^3 + 60y^2 + 150y + 125)$$

$$2^3 = 2 \times 2 \times 2$$

$$x^4 = (x)(x)(x)(x)$$

$$(x-2)^3 = [(x-2)(x-2)](x-2)$$

3.7 Multiplying Polynomials

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

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

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

$$4(x-2)$$

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$$x^3 - 2x^2 - 4x^2 + 8x + 4x - 8$$

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

19. Expand and simplify.

a) $2a(2a - 1)(3a + 2)$

$$(12a^3 + 2a^2 - 4a)$$

b) $-3r(r - 1)(2r + 1)$

$$(-6r^3 + 3r^2 + 3r)$$

c) $5x^2(2x - 1)(4x - 3)$

$$(40x^4 - 50x^3 + 15x^2)$$

d) $-xy(2x + 5)(4x - 5)$

$$(-8x^3y - 10x^2y + 25xy)$$



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$$\begin{aligned} & 2a(2a-1)(3a+2) \\ & (4a^2-2a)(3a+2) \\ & 12a^3 + 8a^2 - 6a^2 - 4a \\ & 12a^3 + 2a^2 - 4a \end{aligned}$$