

1. Expand and collect like terms.

(a)  $4(x + 1)(x + 9)$

(b)  $-3(x + 2)(x - 5)$

(c)  $2(x - 8)^2$

(d)  $-5(x + 2)(2x + 3)$

(e)  $3(x - 7)(3x - 4)$

(f)  $-4(2x - 5)(3x + 2)$

(g)  $6(4x + 2)(5x - 7)$

(h)  $-2(3x + 5)^2$

1. Expand and collect like terms.

(a)  $4(x+1)(x+9)$

$$4(x^2 + 9x + 1x + 9)$$

$$4(x^2 + 10x + 9)$$

$$4x^2 + 40x + 36$$

(b)  $-3(x+2)(x-5)$

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

$$-3(x^2 - 3x - 10)$$

$$-3x^2 + 9x + 30$$

(c)  $2(x-8)^2$

$$2(x-8)(x-8)$$

$$2(x^2 - 8x - 8x + 64)$$

$$2(x^2 - 16x + 64)$$

$$2x^2 - 32x + 128$$

(d)  $-5(x+2)(2x+3)$

$$-5(2x^2 + 3x + 4x + 6)$$

$$-5(2x^2 + 7x + 6)$$

$$-10x^2 - 35x - 30$$

(e)  $3(x-7)(3x-4)$

$$3(3x^2 - 4x - 21x + 28)$$

$$3(3x^2 - 25x + 28)$$

$$9x^2 - 75x + 84$$

(f)  $-4(2x-5)(3x+2)$

$$-4(6x^2 + 4x - 15x - 10)$$

$$-4(6x^2 - 11x - 10)$$

$$-24x^2 + 44x + 40$$

(g)  $6(4x+2)(5x-7)$

$$6(20x^2 - 28x + 10x - 14)$$

$$6(20x^2 - 18x - 14)$$

$$120x^2 - 108x - 84$$

(h)  $-2(3x+5)^2$

$$-2(3x+5)(3x+5)$$

$$-2(9x^2 + 15x + 15x + 25)$$

$$-2(9x^2 + 30x + 25)$$

$$-18x^2 - 60x - 50$$