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39-45 odd

5.1 page 261

82, 86

$$(39) \quad y = -(x+3)(x-4)$$

$$y = -(x^2 - 4x + 3x - 12)$$

$$y = -(x^2 - x - 12)$$

$$y = -x^2 + x + 12$$

$$(41) \quad y = -3(x-7)(x+4)$$

$$y = -3(x^2 + 4x - 7x - 28)$$

$$y = -3(x^2 - 3x - 28)$$

$$y = -3x^2 + 9x + 84$$

$$(43) \quad y = (x+3)^2 + 2$$

$$y = (x+3)(x+3) + 2$$

$$y = (x^2 + 3x + 3x + 9) + 2$$

$$y = x^2 + 6x + 9 + 2$$

$$y = x^2 + 6x + 11$$

$$(45) \quad y = -6(x-2)^2 - 9$$

$$y = -6(x-2)(x-2) - 9$$

$$y = -6(x^2 - 2x - 2x + 4) - 9$$

$$y = -6(x^2 - 4x + 4) - 9$$

$$y = -6x^2 + 24x - 24 - 9$$

$$y = -6x^2 + 24x - 33$$

$$(82) \quad y = x^2 + 2x - 35$$

$$y = (x-5)(x+7)$$

zeros: $(5, 0)$; $(-7, 0)$

$$(86) \quad y = 3x^2 - 12x - 15$$

$$y = 3(x^2 - 4x - 5)$$

$$y = 3(x-5)(x+1)$$

zeros: $(5, 0)$; $(-1, 0)$