

168 a. $f(x) = x^2 + 6x - 13 = [(x + 3)^2 - 9] - 13 = (x + 3)^2 - 22.$

b. $g(x) = 2x^2 + x + 9 = 2\left(x^2 + \frac{1}{2}x\right) + 9 = 2\left[\left(x + \frac{1}{4}\right)^2 - \frac{1}{16}\right] + 9 = 2\left(x + \frac{1}{4}\right)^2 - \frac{1}{8} + 9.$

Donc $g(x) = 2\left(x + \frac{1}{4}\right)^2 + \frac{71}{8}.$

c. $h(x) = 5x^2 - x + 1 = 5\left(x^2 - \frac{1}{5}x\right) + 1 = 5\left[\left(x - \frac{1}{10}\right)^2 - \frac{1}{100}\right] + 1 = 5\left(x - \frac{1}{10}\right)^2 - \frac{1}{20} + 1.$

Donc $h(x) = 5\left(x - \frac{1}{10}\right)^2 + \frac{19}{20}.$

d. $p(x) = -4x^2 + 8x - 2 = -4(x^2 - 2x) - 2 = -4[(x - 1)^2 - 1] - 2 = -4(x - 1)^2 + 4 - 2.$

Donc $p(x) = -4(x - 1)^2 + 2.$