

Given the following functions:

$$\underline{f(x) = 3x^2 + 5x - 2} \quad \underline{g(x) = 4x^3 + 2x^2 - x}$$

$$\underline{h(x) = -5x^2 + x + 7} \quad \underline{k(x) = -2x + 1}$$

1. $f(-1) + h(2) = -4 + (-11) = -15$ 2. $f(3) - h(-1) = 40 - 1 = \boxed{39}$

$$f(-1) = 3(-1)^2 + 5(-1) - 2 = 3 - 5 - 2 = -4$$

$$h(2) = -5(2)^2 + 2 + 7 = -20 + 2 + 7 = -11$$

$$f(3) = 3(3)^2 + 5(3) - 1 = 27 + 15 - 2 = 40$$

$$h(-1) = -5(-1)^2 - 1 + 7 = -5 - 1 + 7 = 1$$

3. $g(2) + h(-2)$ 4. $f(-2) + h(2) - k(3)$ 5. $f(1) \cdot k(-4)$

$$g(2) = 4(2)^3 + 2(2)^2 - 2 = 32 + 8 - 2 = 38$$

$$f(-2) = 3(-2)^2 + 5(-2) - 2 = 12 - 10 - 2 = 0$$

$$f(1) = 3(1)^2 + 5(1) - 2 = 3 + 5 - 2 = 6$$

$$h(-2) = -5(-2)^2 + (-2) + 7 = -20 - 2 + 7 = -15$$

$$h(2) = -5(2)^2 + 2 + 7 = -20 + 2 + 7 = -11$$

$$k(-4) = -2(-4) + 1 = 8 + 1 = 9$$

$$38 + (-15) = 23$$

$$k(3) = -2(3) + 1 = -6 + 1 = -5$$

$$0 + (-11) - (-5) = -6$$

$$6 \cdot 9 = 54$$