

## Exercise 5

For the following exercises, evaluate the function at the indicated values:  $f(-3)$ ;  $f(2)$ ;  $f(-a)$ ;  $-f(a)$ ;  $f(a+h)$ .

$$f(x) = -2x^2 + 3x$$

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### Solution

Evaluate the function at the given values of  $x$ .

$$f(-3) = -2(-3)^2 + 3(-3) = -2(9) - 9 = -18 - 9 = -27$$

$$f(2) = -2(2)^2 + 3(2) = -2(4) + 6 = -8 + 6 = -2$$

$$f(-a) = -2(-a)^2 + 3(-a) = -2a^2 - 3a$$

$$-f(a) = -[-2(a)^2 + 3(a)] = -(-2a^2 + 3a) = 2a^2 - 3a$$

$$f(a+h) = -2(a+h)^2 + 3(a+h) = -2(a^2 + 2ah + h^2) + 3a + 3h = -2a^2 - 4ah - 2h^2 + 3a + 3h$$