## Exercise 48

For the following exercises, given each function $f$, evaluate $f(-3)$, $f(-2)$, $f(-1)$, and $f(0)$.

$$f(x) = \begin{cases} -2x^2 + 3 & \text{if } x \leq -1 \\ 5x - 7 & \text{if } x > -1 \end{cases}$$

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**Solution**

Since $-3 \leq -1$,

$$f(-3) = -2(-3)^2 + 3 = -2(9) + 3 = -18 + 3 = -15.$$

Since $-2 \leq -1$,

$$f(-2) = -2(-2)^2 + 3 = -2(4) + 3 = -8 + 3 = -5.$$

Since $-1 \leq -1$,

$$f(-1) = -2(-1)^2 + 3 = -2(1) + 3 = -2 + 3 = 1.$$

Since $0 > -1$,

$$f(0) = 5(0) - 7 = 0 - 7 = -7.$$