

## Exercise 12

For the following exercises, find the values for each function, if they exist, then simplify.

- a.  $f(0)$  b.  $f(1)$  c.  $f(3)$  d.  $f(-x)$  e.  $f(a)$  f.  $f(a+h)$

$$f(x) = \frac{x - 2}{3x + 7}$$

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### Solution

Evaluate each of the functions.

$$f(0) = \frac{(0) - 2}{3(0) + 7} = -\frac{2}{7} \approx -0.286$$

$$f(1) = \frac{(1) - 2}{3(1) + 7} = -\frac{1}{10}$$

$$f(3) = \frac{(3) - 2}{3(3) + 7} = \frac{1}{16} = 0.0625$$

$$f(-x) = \frac{(-x) - 2}{3(-x) + 7} = \frac{-x - 2}{-3x + 7}$$

$$f(a) = \frac{(a) - 2}{3(a) + 7} = \frac{a - 2}{3a + 7}$$

$$f(a+h) = \frac{(a+h) - 2}{3(a+h) + 7} = \frac{a+h-2}{3a+3h+7}$$