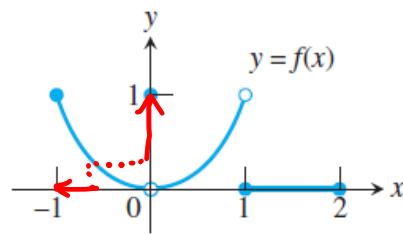


37.

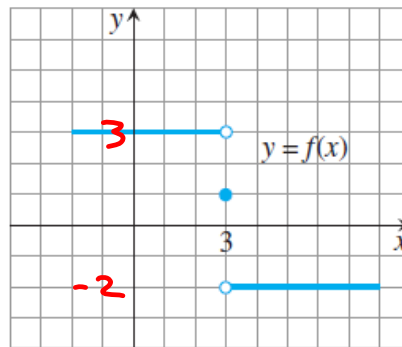


- |   |  |
|---|--|
| (a) $\lim_{x \rightarrow -1^+} f(x) = 1$ True | (b) $\lim_{x \rightarrow 0^-} f(x) = 0$ True                             |
| (c) $\lim_{x \rightarrow 0^-} f(x) = 1$ False | (d) $\lim_{x \rightarrow 0^-} f(x) = \lim_{x \rightarrow 0^+} f(x)$ True |
| (e) $\lim_{x \rightarrow 0} f(x)$ exists True | (f) $\lim_{x \rightarrow 0} f(x) = 0$ True                               |
| (g) $\lim_{x \rightarrow 0} f(x) = 1$ False   | (h) $\lim_{x \rightarrow 1} f(x) = 1$ False                              |
| (i) $\lim_{x \rightarrow 1} f(x) = 0$ False   | (j) $\lim_{x \rightarrow 2^-} f(x) = 2$ False                            |

$$\lim_{x \rightarrow c^+} f(x)$$

what y-value is being approached as we trace the graph of  $f(x)$  from the right side

39.



(a)  $\lim_{x \rightarrow 3^-} f(x) = 3$

(b)  $\lim_{x \rightarrow 3^+} f(x) = -2$

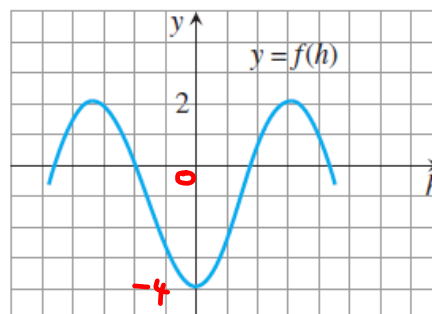
(c)  $\lim_{x \rightarrow 3} f(x)$  No limit

(d)  $f(3) = 1$

$$(c) \lim_{x \rightarrow 3^-} f(x) = 3$$

$$\lim_{x \rightarrow 3^+} f(x) = -2$$

41.



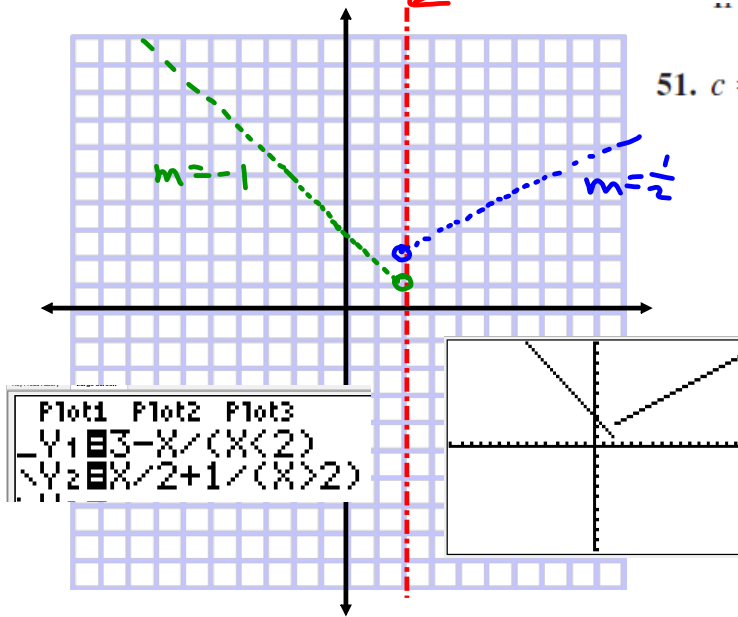
(a)  $\lim_{h \rightarrow 0^-} f(h) = -4$

(b)  $\lim_{h \rightarrow 0^+} f(h) = -4$

(c)  $\lim_{h \rightarrow 0} f(h) = -4$

(d)  $f(0) = -4$

Topic: piecewise-defined fns. "pivot point"



51.  $c = 2, f(x) = \begin{cases} 3 - x, & x < 2 \\ \frac{x}{2} + 1, & x > 2 \end{cases}$

$y = -x + 3 \quad x < 2$   
 $y = \frac{1}{2}x + 1 \quad x > 2$