

Key

AB Ch. 1.2 Select Homework

Does Not exist/

24. (a) $f(-2) = \text{DNE (undefined)}$

(b) $\lim_{x \rightarrow -2} f(x) = \text{DNE}$

(c) $f(0) = 4$

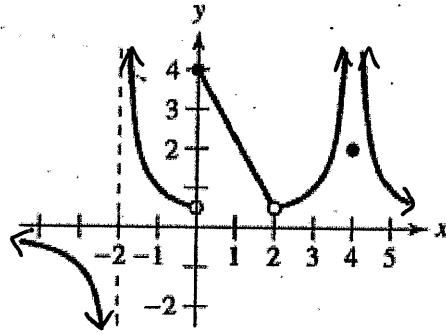
(d) $\lim_{x \rightarrow 0} f(x) = \text{DNE}$

(e) $f(2) = \text{undefined}$

(f) $\lim_{x \rightarrow 2} f(x) = \frac{1}{2}$

(g) $f(4) = 2$

(h) $\lim_{x \rightarrow 4} f(x) = +\infty \text{ (DNE)}$



25. $f(x) = \begin{cases} x^2, & x \leq 2 \\ 8 - 2x, & 2 < x < 4 \\ 4, & x \geq 4 \end{cases}$

* Identify values of c where $\lim_{x \rightarrow c} f(x)$ exists:

$y = x^2$

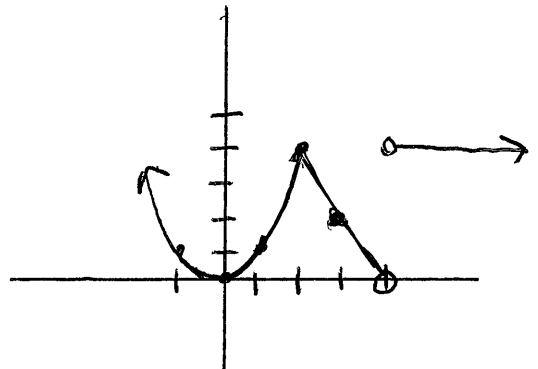
x	y
2	4
1	1
0	0
-1	1

$y = 8 - 2x$

x	y
2	4
3	2
4	0

$y = 4$

x	y
4	4
5	4
6	4



$\lim_{x \rightarrow c} f(x)$ exists for all $c \neq 4$

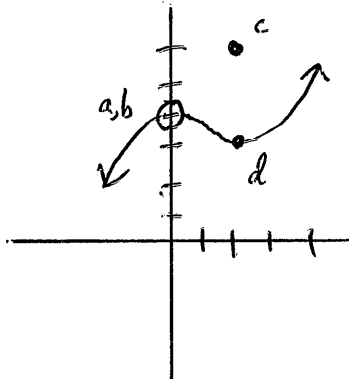
Sketching a Graph In Exercises 27 and 28, sketch a graph of a function f that satisfies the given values. (There are many correct answers.)

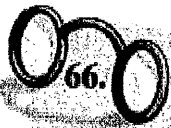
27. a) $f(0)$ is undefined.

b) $\lim_{x \rightarrow 0} f(x) = 4$

c) $f(2) = 6$

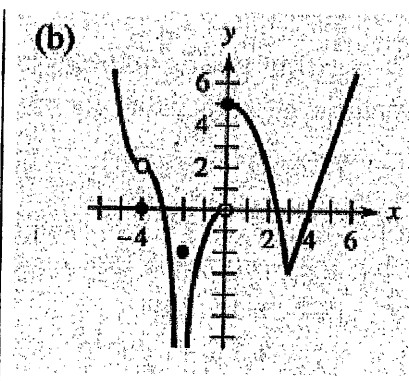
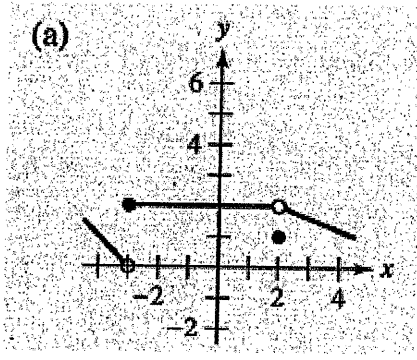
d) $\lim_{x \rightarrow 2} f(x) = 3$





66.

HOW DO YOU SEE IT? Use the graph of f to identify the values of c for which $\lim_{x \rightarrow c} f(x)$ exists.



$\lim_{x \rightarrow c} f(x)$ exists for all $c \neq -3$

$\lim_{x \rightarrow c} f(x)$ exists for all $c \neq -2, 0$

24. (a) $f(-2)$

(b) $\lim_{x \rightarrow -2} f(x)$

(c) $f(0)$

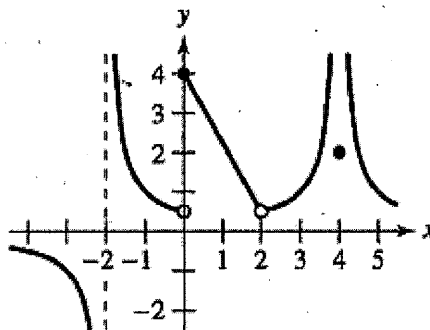
(d) $\lim_{x \rightarrow 0} f(x)$

(e) $f(2)$

(f) $\lim_{x \rightarrow 2} f(x)$

(g) $f(4)$

(h) $\lim_{x \rightarrow 4} f(x)$



25.
$$f(x) = \begin{cases} x^2, & x \leq 2 \\ 8 - 2x, & 2 < x < 4 \\ 4, & x \geq 4 \end{cases}$$

Sketching a Graph In Exercises 27 and 28, sketch a graph of a function f that satisfies the given values. (There are many correct answers.)

27. $f(0)$ is undefined.

$$\lim_{x \rightarrow 0} f(x) = 4$$

$$f(2) = 6$$

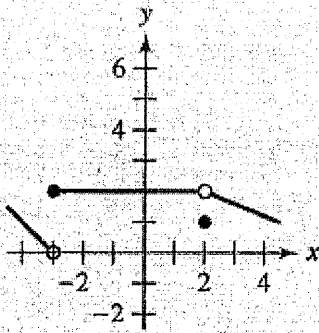
$$\lim_{x \rightarrow 2} f(x) = 3$$



66.

HOW DO YOU SEE IT? Use the graph of f to identify the values of c for which $\lim_{x \rightarrow c} f(x)$ exists.

(a)



(b)

