

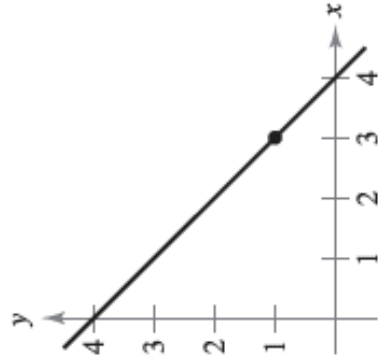
Applied Technology High School  
Mathematics

Grade 12 Core

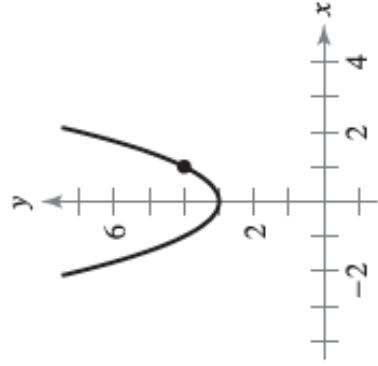
Worksheet: Estimating limits graphically

Use the graph to find the limits.

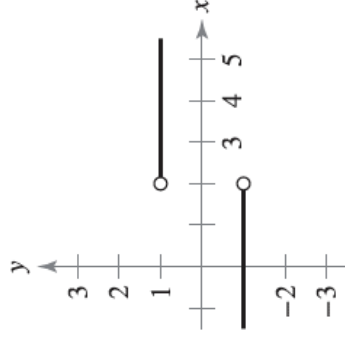
1.  $\lim_{x \rightarrow 3} (4 - x)$



2.  $\lim_{x \rightarrow 1} (x^2 + 3)$

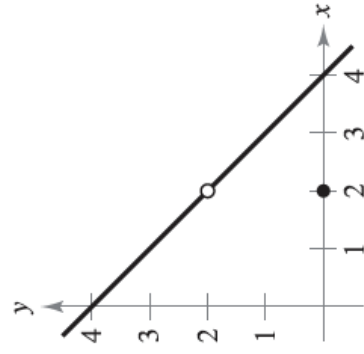


3.  $\lim_{x \rightarrow 2} \frac{|x - 2|}{x - 2}$



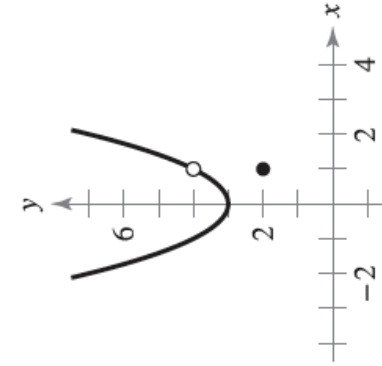
4.  $\lim_{x \rightarrow 2} f(x)$

$$f(x) = \begin{cases} 4 - x, & x \neq 2 \\ 0, & x = 2 \end{cases}$$

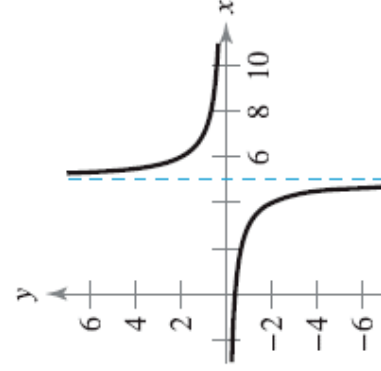


5.  $\lim_{x \rightarrow 1} f(x)$

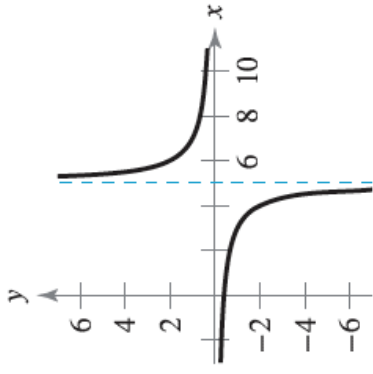
$$f(x) = \begin{cases} x^2 + 3, & x \neq 1 \\ 2, & x = 1 \end{cases}$$



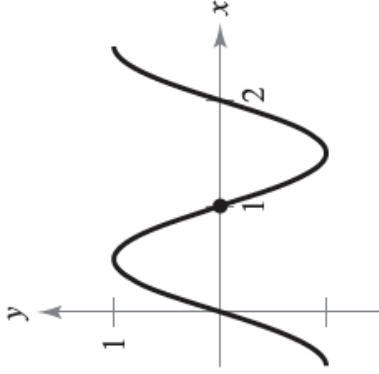
6.  $\lim_{x \rightarrow 5} \frac{2}{x - 5}$



7.  $\lim_{x \rightarrow 5} \frac{2}{x - 5}$

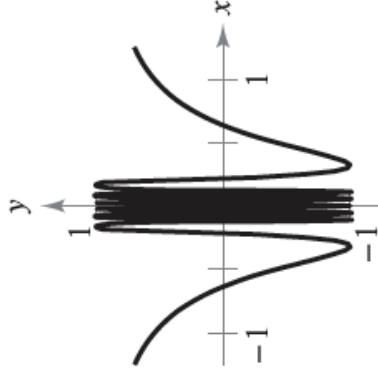


8.  $\lim_{x \rightarrow 1} \sin \pi x$



9.

$\lim_{x \rightarrow 0} \cos \frac{1}{x}$



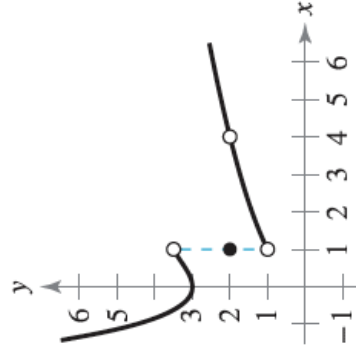
Use the graph of the function  $f$  to decide whether the value of the given quantity exists. If it does, find it. If not explain why.

10. (a)  $f(1)$

(b)  $\lim_{x \rightarrow 1} f(x)$

(c)  $f(4)$

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



11.

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

