

SECTION 2.2 WORKSHEET

YOU MUST SHOW ALL WORK ON A SEPARATE SHEET OF PAPER

1) Find each:

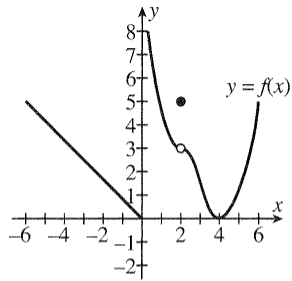
a) $\lim_{x \rightarrow 2} x + 8 = \underline{\hspace{2cm}}$.

b) $\lim_{x \rightarrow 4} 2x + 6 = \underline{\hspace{2cm}}$.

c) As $x \rightarrow 2$, $x^3 \rightarrow \underline{\hspace{2cm}}$.

d) $\lim_{x \rightarrow 3} 7 = \underline{\hspace{2cm}}$.

2) Answer each using the graph below:



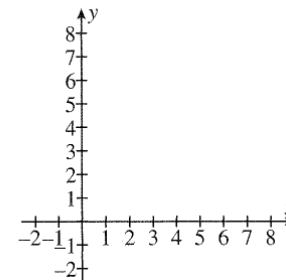
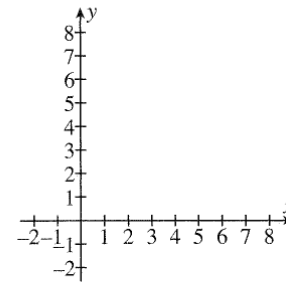
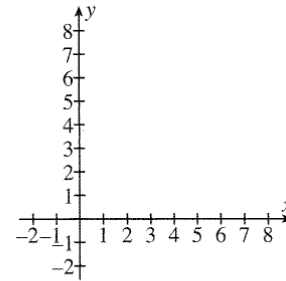
a) $\lim_{x \rightarrow -5} f(x) = \underline{\hspace{2cm}}$

b) $\lim_{x \rightarrow 2} f(x) = \underline{\hspace{2cm}}$

c) $\lim_{x \rightarrow 0} f(x) = \underline{\hspace{2cm}}$

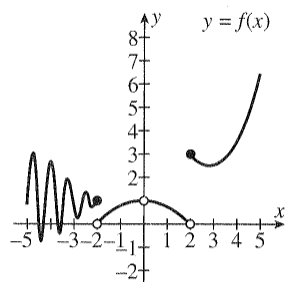
3) Find $\lim_{x \rightarrow 2} |x - 5|$ by making a table of values for x near 2.

4) Sketch three different functions, each of which has $\lim_{x \rightarrow 4} f(x) = 2$.



5) Estimate $\lim_{x \rightarrow 1} \frac{1}{1-x}$.

- 6) Answer each using the graph of $y = f(x)$ below:



a) $\lim_{x \rightarrow -2^-} f(x) = \underline{\hspace{2cm}}$.

b) $\lim_{x \rightarrow -2^+} f(x) = \underline{\hspace{2cm}}$.

c) $\lim_{x \rightarrow -2} f(x) = \underline{\hspace{2cm}}$.

d) $\lim_{x \rightarrow 2^+} f(x) = \underline{\hspace{2cm}}$.

e) $\lim_{x \rightarrow 2^-} f(x) = \underline{\hspace{2cm}}$.

f) $\lim_{x \rightarrow 2} f(x) = \underline{\hspace{2cm}}$.

g) $\lim_{x \rightarrow 0^-} f(x) = \underline{\hspace{2cm}}$.

h) $\lim_{x \rightarrow 0^+} f(x) = \underline{\hspace{2cm}}$.

i) $\lim_{x \rightarrow 0} f(x) = \underline{\hspace{2cm}}$.

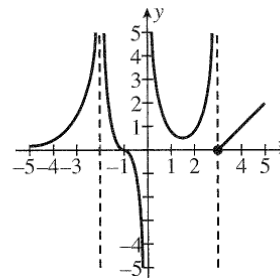
Skip #7-9

- 10) Sometimes, Always, or Never:

If $\lim_{x \rightarrow 2^+} f(x)$ does not exist, then $\lim_{x \rightarrow 2} f(x)$ does not exist.

Skip #11

- 12) Evaluate the limits given the graph of $y = f(x)$ below. If the limit does not exist, explain why.



a) $\lim_{x \rightarrow -2^+} f(x) = \underline{\hspace{2cm}}$.

b) $\lim_{x \rightarrow -2^-} f(x) = \underline{\hspace{2cm}}$.

c) $\lim_{x \rightarrow -2} f(x) = \underline{\hspace{2cm}}$.

d) $\lim_{x \rightarrow 3^-} f(x) = \underline{\hspace{2cm}}$.

e) $\lim_{x \rightarrow 3^+} f(x) = \underline{\hspace{2cm}}$.

f) $\lim_{x \rightarrow 3} f(x) = \underline{\hspace{2cm}}$.

g) $\lim_{x \rightarrow 0^+} f(x) = \underline{\hspace{2cm}}$.

h) $\lim_{x \rightarrow 0^-} f(x) = \underline{\hspace{2cm}}$.

i) $\lim_{x \rightarrow 0} f(x) = \underline{\hspace{2cm}}$.

Skip #13

14) $\lim_{x \rightarrow 0^+} \csc x = \underline{\hspace{2cm}}$.