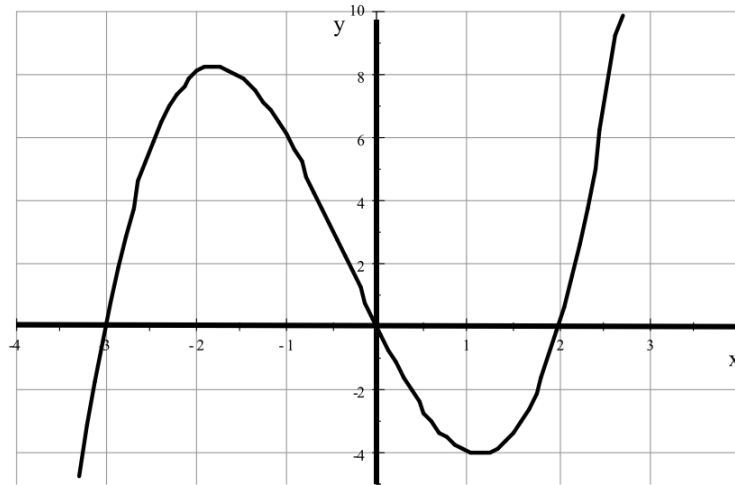


## Lesson 35 Finding Limits Graphically

### Example 1

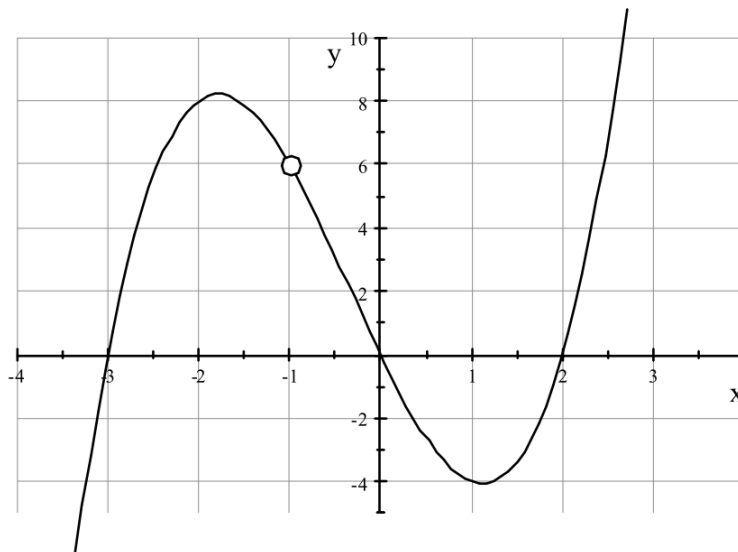
$$f(x) = x^3 + x^2 - 6x$$



$$f(-1) = \underline{\hspace{2cm}} \qquad \lim_{x \rightarrow -1} = \underline{\hspace{2cm}}$$

### Example 2

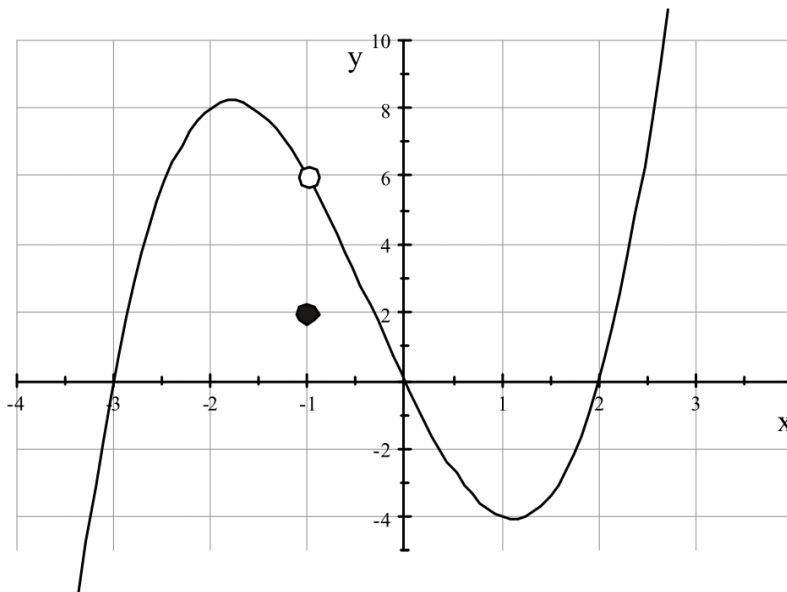
$$f(x) = x^3 + x^2 - 6x, x \neq -1$$



$$f(-1) = \underline{\hspace{2cm}} \qquad \lim_{x \rightarrow -1} = \underline{\hspace{2cm}}$$

Example 3

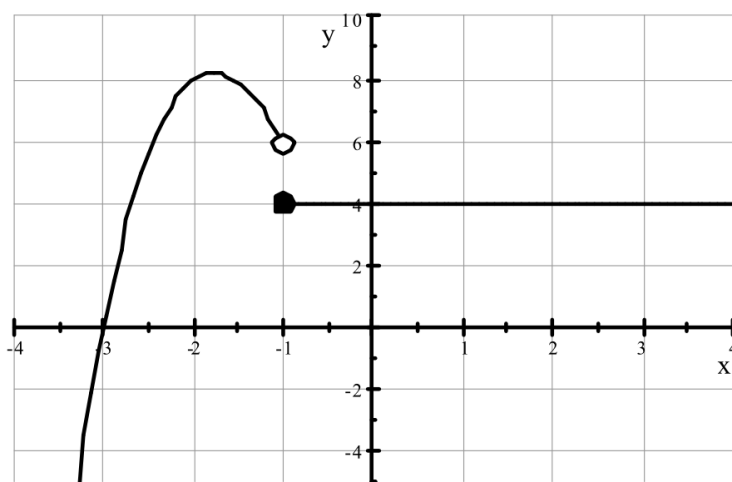
$$f(x) = \begin{cases} x^3 + x^2 - 6x & x \neq -1 \\ 2 & x = -1 \end{cases}$$



$f(-1) =$  \_\_\_\_\_       $\lim_{x \rightarrow -1} =$  \_\_\_\_\_

Example 4

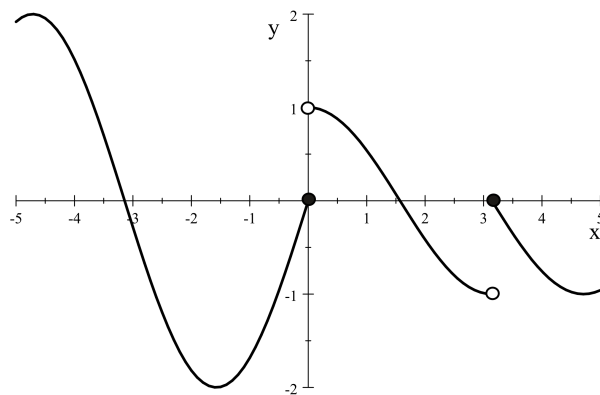
$$f(x) = \begin{cases} x^3 + x^2 - 6x & x < -1 \\ 4 & x \geq -1 \end{cases}$$



$f(-1) =$  \_\_\_\_\_       $\lim_{x \rightarrow -1} =$  \_\_\_\_\_

Example 5

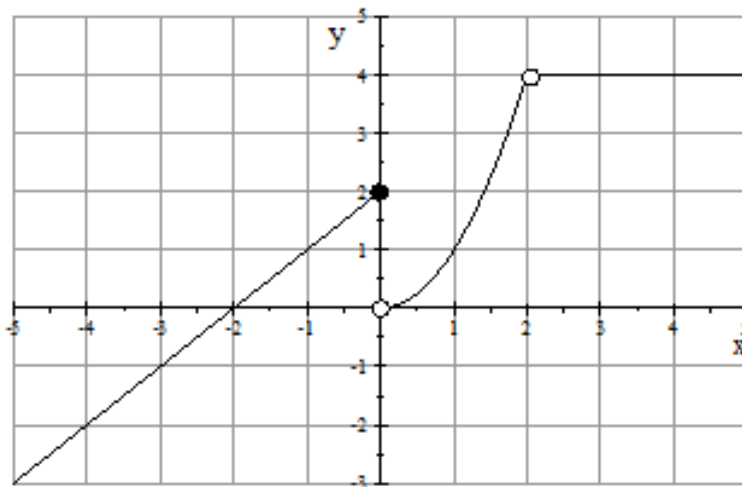
$$f(x) = \begin{cases} 2 \sin x & x \leq 0 \\ \cos x & 0 < x < \pi \\ \sin x & x \geq \pi \end{cases}$$



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

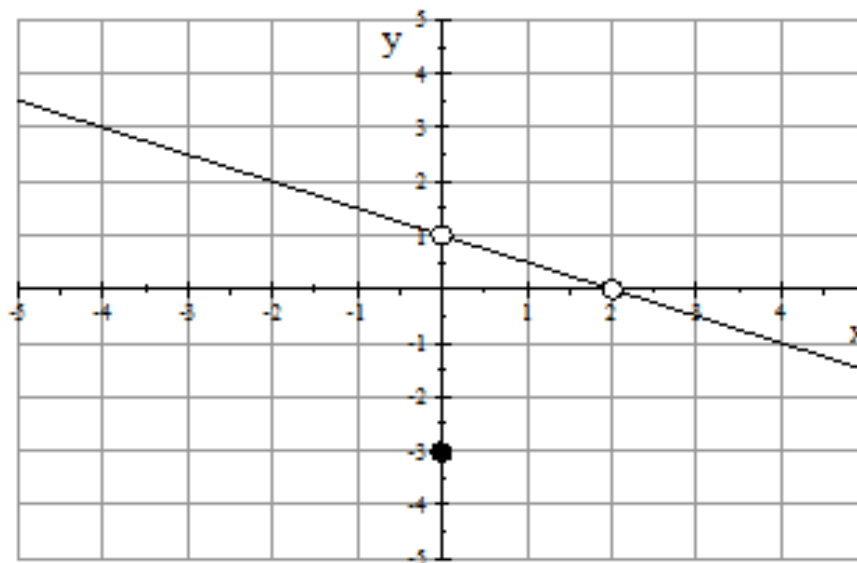
$f(\pi) =$  \_\_\_\_\_       $\lim_{x \rightarrow \pi} =$  \_\_\_\_\_

Example 6



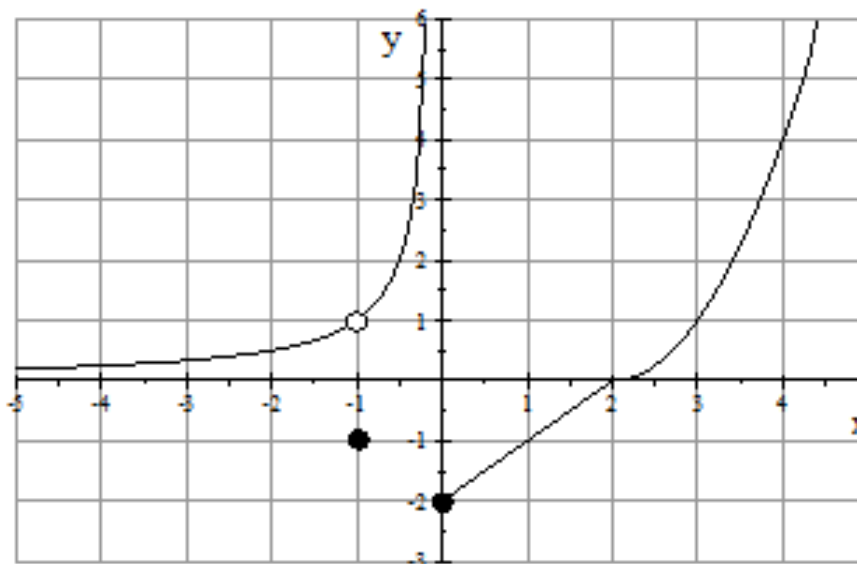
$\lim_{x \rightarrow -2} f(x) =$  \_\_\_\_\_       $\lim_{x \rightarrow 0} f(x) =$  \_\_\_\_\_       $\lim_{x \rightarrow 2} f(x) =$  \_\_\_\_\_

Example 7



$\lim_{x \rightarrow -2} f(x) =$  \_\_\_\_\_     
  $\lim_{x \rightarrow 0} f(x) =$  \_\_\_\_\_     
  $\lim_{x \rightarrow 2} f(x) =$  \_\_\_\_\_

Example 8



$\lim_{x \rightarrow -1} f(x) =$  \_\_\_\_\_     
  $\lim_{x \rightarrow 0} f(x) =$  \_\_\_\_\_     
  $\lim_{x \rightarrow 2} f(x) =$  \_\_\_\_\_