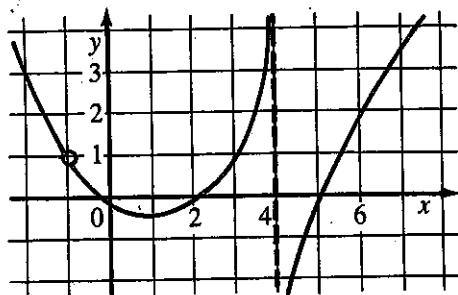


Calculus 12
2-2 Questions

1. Use the given graph of f to state the value of the limit, if it exists.



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

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

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

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

2. State the value of each limit.

a) $\lim_{x \rightarrow 2} x^3$

b) $\lim_{x \rightarrow \pi} x$

c) $\lim_{x \rightarrow 8} 3$

d) $\lim_{x \rightarrow 4} \sqrt{x}$

e) $\lim_{x \rightarrow k} x^6$

f) $\lim_{x \rightarrow 0} \pi$

3. Use the properties of limits to evaluate the following.

a) $\lim_{x \rightarrow 1} (3x - 7)$

b) $\lim_{x \rightarrow -1} (2x^2 - 5x + 3)$

c) $\lim_{x \rightarrow 2} (x^3 + x^2 - 2x - 8)$

d) $\lim_{x \rightarrow -2} (x^2 + 5x + 3)^6$

e) $\lim_{x \rightarrow 0} \frac{x-1}{x+1}$

f) $\lim_{x \rightarrow 4} \frac{x^2 + 2x - 3}{x^2 + 2}$

$$\text{g) } \lim_{x \rightarrow 2} \frac{t^4 - 3t + 1}{t^2(t-1)^3}$$

$$\text{h) } \lim_{x \rightarrow -4} \sqrt{u^4 + 2u^2}$$

$$\text{i) } \lim_{x \rightarrow 5} \sqrt[3]{x^2 + 2x - 8}$$

$$\text{j) } \lim_{x \rightarrow 3} \left(2t^2 + \sqrt{\frac{6+t}{4-t}} \right)$$