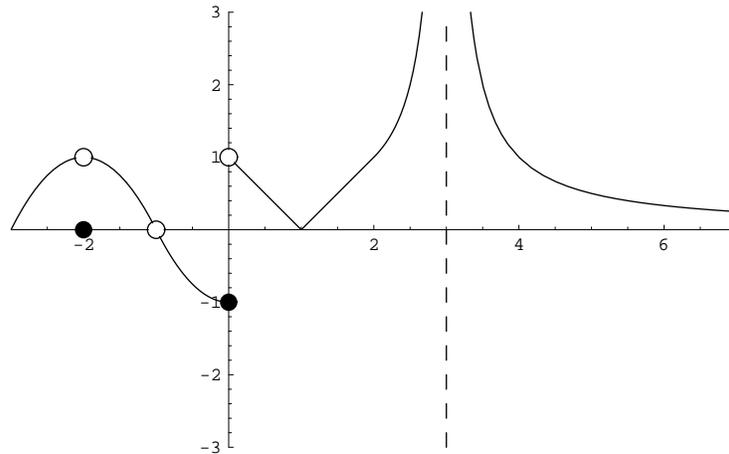


Gateway Exam #2 Practice Problems
Finding Limits Graphically



Use the graph of the function f to find the following limits. An answer of “The given limit does not exist” will be counted incorrect if a more specific answer (such as “ $= \infty$ ” or “ $= -\infty$ ”) is true.

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

- (a) -1
- (b) 0
- (c) 1
- (d) ∞
- (e) The given limit does not exist.

2. $\lim_{x \rightarrow -1^-} f(x)$

- (a) -1
- (b) 0
- (c) 1
- (d) $-\infty$
- (e) The given limit does not exist.

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

- (a) -1
- (b) 0
- (c) 1
- (d) ∞
- (e) The given limit does not exist.

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

- (a) -1
- (b) 0
- (c) 1
- (d) $-\infty$
- (e) The given limit does not exist.

5. $\lim_{x \rightarrow 0^-} f(x)$

- (a) -1
- (b) 0
- (c) 1
- (d) ∞
- (e) The given limit does not exist.

6. $\lim_{x \rightarrow 0^+} f(x)$

- (a) -1
- (b) 0
- (c) 1
- (d) $-\infty$
- (e) The given limit does not exist.

7. $\lim_{x \rightarrow 0} f(x)$

- (a) -1
- (b) 0
- (c) 1
- (d) ∞
- (e) The given limit does not exist.

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

- (a) 0
- (b) 1
- (c) 2
- (d) $-\infty$
- (e) The given limit does not exist.

9. $\lim_{x \rightarrow 3^-} f(x)$

- (a) 0
- (b) 3
- (c) $-\infty$

- (d) ∞
- (e) The given limit does not exist.

10. $\lim_{x \rightarrow 3^+} f(x)$

- (a) 0
- (b) 3
- (c) $-\infty$
- (d) ∞
- (e) The given limit does not exist.

11. $\lim_{x \rightarrow 3} f(x)$

- (a) 0
- (b) 3
- (c) $-\infty$
- (d) ∞
- (e) The given limit does not exist.

12. $\lim_{x \rightarrow \infty} f(x)$

- (a) 0
- (b) 1
- (c) $-\infty$
- (d) ∞
- (e) The given limit does not exist.

Answers:

- | | | | | |
|-------|-------|------|------|-------|
| 1. c | 2. b | 3. b | 4. b | 5. a |
| 6. c | 7. e | 8. a | 9. d | 10. d |
| 11. d | 12. a | | | |