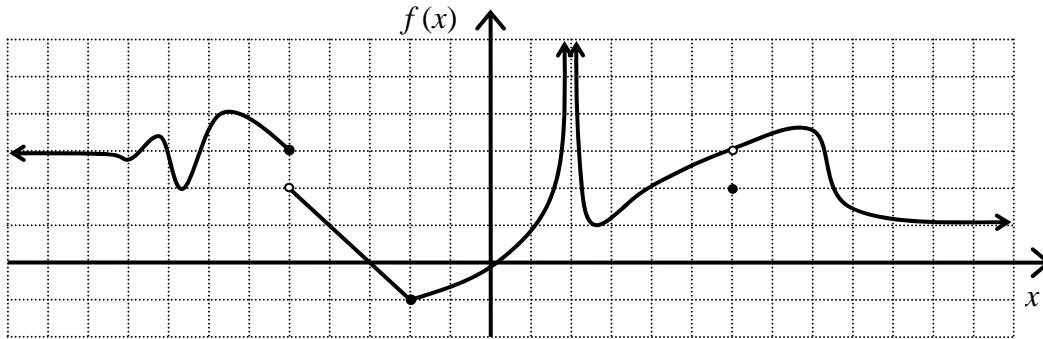


Math 163A Class Drill 0: Limits and Continuity

Use the graph below to answer the questions that follow.



(a) Give equations that describe each asymptote on the graph.

(b) Find $\lim_{x \rightarrow 6} f(x)$.

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

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

(e) Is f continuous at $a = -5$? If not, explain why not.

(f) Is f continuous at $a = -2$? If not, explain why not.

(g) Is f continuous at $a = 6$? If not, explain why not.

Remember that for a function f to be continuous at some number “ a ”, the function must pass these three tests:

Test 1: $f(a)$ must exist

Test 2: $\lim_{x \rightarrow a} f(x)$ must exist

Test 2a $\lim_{x \rightarrow a^-} f(x)$ must exist

Test 2b $\lim_{x \rightarrow a^+} f(x)$ must exist

Test 2c: The numbers in test 2a and 2b must agree.

Test 3: The numbers in test 1 and test 2 must agree.