One-Sided Limits

$\lim_{x \to c^+} f(x)$ right-hand limit

$\lim_{x \to c^-} f(x)$ left-hand limit

$\lim_{x \to c^+} f(x) = L$

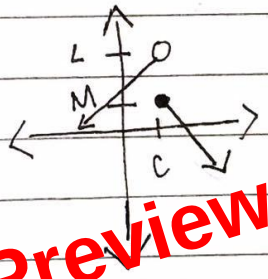
$\lim_{x \to c^-} f(x) = L$

$\lim_{x \to c} f(x) = L$

$\lim_{x \to c^+} f(x) = L$

$\lim_{x \to c^-} f(x) = M$

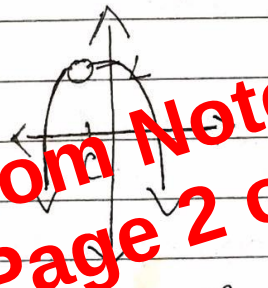
$\lim_{x \to c} f(x)$ DNE



$\lim_{x \to c^-} f(x) = L$

$\lim_{x \to c^+} f(x) = M$

$\lim_{x \to c} f(x)$ DNE

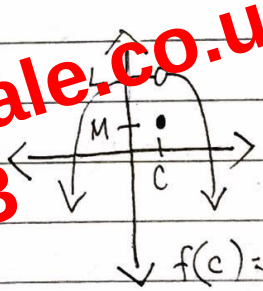


$f(c)$ undefined - hollow

$\lim_{x \to c^-} f(x) = L$

$\lim_{x \to c^+} f(x) = L$

$\lim_{x \to c} f(x) = L$

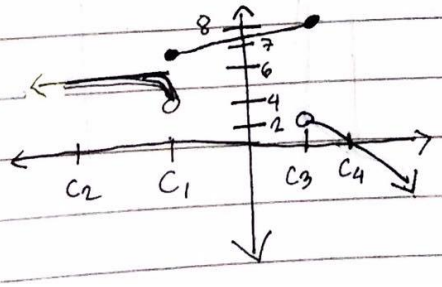


$f(c) = M$

$\lim_{x \to c^-} f(x) = L$

$\lim_{x \to c^+} f(x) = L$

$\lim_{x \to c} f(x) = L$



$\lim_{x \to c_1} f(x)$ DNE

$\lim_{x \to c_2} f(x) = 6$

$\lim_{x \to c_3} f(x)$ DNE

$\lim_{x \to c_4} f(x) = 0$