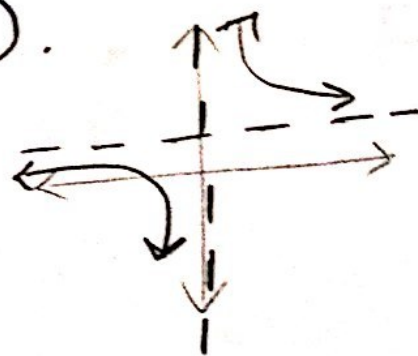


Ex 1) Determine whether MVT can be applied to f on $[a, b]$. Find all c in (a, b) .

$f(x) = \frac{x+1}{x}$ on $[\frac{1}{2}, 2]$



① cont on $[\frac{1}{2}, 2]$ ✓

② dif on $(\frac{1}{2}, 2)$ ✓

MVT ⇐

$(\frac{1}{2}, 3)$ $(2, \frac{3}{2})$

tangent: $\frac{x-x-1}{x-x-1}$

secant: $f'(c) = \frac{\frac{3}{2} - 3}{2 - \frac{1}{2}} = -1$

$f'(x) = \frac{x(1) - (x+1)(1)}{x^2}$

$f'(x) = \frac{-1}{x^2}$

$\frac{-1}{c^2} = -1$

$-c^2 = -1$

$c^2 = 1$

$c = \pm 1$

$c = 1$