#57] $f(x) = \dfrac{|x-1|}{x-1} = \begin{cases} \dfrac{-(x-1)}{x-1} & x < 1 \\ \dfrac{x-1}{x-1} & x > 1 \end{cases}$

$$= \begin{cases} -1 & x < 1 \\ 1 & x > 1 \end{cases}$$

A) $\lim\limits_{x \to 1^+} f(x) = 1$

$f(1) = $ Not defined

B) $\lim\limits_{x \to 1^-} f(x) = -1$

C) $\lim\limits_{x \to 1} f(x) = DNE$

#65] $f(x) = \dfrac{2x^2 - 3x - 2}{x^2 + x - 6} = \dfrac{(2x+1)(x-2)}{(x+3)(x-2)}$

A) $\lim\limits_{x \to 2} f(x) = \dfrac{2(4) - 3(2) - 2}{4 + 2 - 6} = \dfrac{0}{0}$ indeterminate

Use factorization

$\lim\limits_{x \to 2} \dfrac{2x+1}{x+3} = \dfrac{5}{5} = 1$

B) $\lim\limits_{x \to 0} f(x) = \dfrac{-2}{-6} = \dfrac{1}{3}$

C) $\lim\limits_{x \to 1} f(x) = \dfrac{2 - 3 - 2}{1 + 1 - 6} = \dfrac{-3}{-4} = \dfrac{3}{4}$