

Markay M

①

a) $\lim_{x \rightarrow 0^+} f(x) = \cancel{1} \cdot 1$

b) $\lim_{x \rightarrow 4} f(x) = \text{DNE}$

c) $\lim_{x \rightarrow 2^+} f(x) = \cancel{0} \cdot 0$

②

$$\lim_{x \rightarrow \infty} \frac{3x^4 - x + 9}{2x^3 - 7x} \rightarrow \frac{\frac{3x^4}{x^4} - \frac{x}{x^4} + \frac{9}{x^4}}{\frac{2x^3}{x^4} - \frac{7x}{x^4}} \rightarrow \frac{3 - \frac{1}{x^3} + \frac{9}{x^4}}{\frac{2}{x} - \frac{7}{x^3}} \rightarrow \frac{3}{2} = 1.5$$

$\frac{+3}{-7}$

③ $\lim_{x \rightarrow 6} \frac{\sqrt{x} - \sqrt{6}}{x - 6} = \lim_{x \rightarrow 6} \left(\frac{1}{2\sqrt{x}} \right) \rightarrow \lim_{x \rightarrow 6} \left(\frac{1}{2\sqrt{6}} \right)$

$\rightarrow \frac{1}{2\sqrt{6}} \rightarrow \frac{\sqrt{6}}{12} = 0.041$

④ $\lim_{x \rightarrow 3} f(x) = 5/8 (0.625)$ / $\lim_{x \rightarrow 3^-} f(x) = \text{DNE}$

* (put in calculator)