MATH 12:0 - Chapter 2 Review

2.2 (3)
$$\lim_{x \to 1} \frac{x^{3}-1}{\sqrt{x}-1} \left[\frac{\sqrt{x}+1}{\sqrt{x}+1} \right] = \frac{(x+y)(x^{2}+x+1)(\sqrt{x}+1)}{(x+y)} = \frac{(3)(2)}{(3)}$$

2.3 (9) $\lim_{x \to -1} \frac{1}{4} + \frac{1}{x} = \frac{x+y}{4x} = \frac{x+y}{4x} = \frac{(x+y)(\frac{1}{4+x})}{4x} = \frac{-\frac{1}{16}}{16}$

2.5 (2) $\lim_{x \to \infty} \frac{x^{2}+5x}{2x^{2}+4} = \frac{1}{12} = \frac{x+y}{4x} = \frac{(x+y)(\frac{1}{4+x})}{4x} = \frac{-\frac{1}{16}}{16}$

2.6 (3) $\lim_{x \to -\infty} \frac{x+2}{\sqrt{x^{2}+1}} = \lim_{x \to \infty} \frac{x+2}{3x} = \frac{1}{3} = \frac{3}{3} = \frac{3}{16} = \frac{3}{16} = \frac{1}{16}$

2.6 (6) $\lim_{x \to -\infty} \frac{x+2}{x+1} + x = \frac{1}{3} = \frac{x^{2}+x+1}{3} = \frac{x+1}{3} = \frac{x+1}{3} = \frac{x+1}{3} = \frac{x+1}{3} = \frac{x+1}{3}$

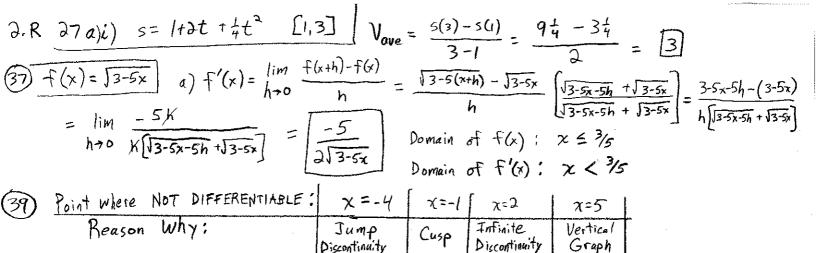
2.6 (6) $\lim_{x \to -\infty} \frac{1}{(x-2)} = \lim_{x \to 0} \frac{1}{(x-2)} = -8 \Rightarrow \lim_{x \to 0} \frac{x+1}{\sqrt{x^{2}+x+1}} = \frac{x+1}{3} = \frac{x+1}{3}$

2.7 (3) $\lim_{x \to -\infty} \frac{1}{(x-2)} = \lim_{x \to 0} \frac{x+1}{\sqrt{x^{2}+x+1}} = \frac{x+1}{3} = \frac{x+1}{3$

 $\frac{\partial \left(3^{(x)}\right)}{\partial x^{2}} = \frac{1}{2} \lim_{x \to 1} g(x) = 1 + \lim_{x \to 1} h(x) = 1 \Rightarrow 1 \le \lim_{x \to 1} f(x) \le 1 \Rightarrow \lim_{x \to 1} f(x) = 1 \Rightarrow 1 \le \lim_{x \to 1} f(x) =$

 $\Rightarrow \lim_{x \to 3} f(x) = \frac{-5}{9(3+3)} = \left(-\frac{5}{54}\right)$

 $\lim_{x \to \pi} \ln[\sin x] = \ln[0^{\dagger}] = -\infty$



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(44) Interval:	(-3,-2)	(-2-1)	(-1,0)	(0,1)	(1,2)	(2,3)	(3,4)	(4,5)	(5,8)
Sign of f':	-	+	+			_		+	+
Sian of F":	+	+			+		+	+	
	Decreasing Concave UP	Incr Conc UP	Incr CORC DOWN	Decr Conc DOWN	Decr Conc UP	Decr Conc DOWN		Incr Conc UP	Incr Conc DOWN

