

$$\lim_{x \rightarrow 1} \frac{1}{(x-1)} - \frac{2}{(x^2-1)}$$

$$\lim_{x \rightarrow 1} \frac{1}{(x-1)} - \frac{2}{(x-1)(x+1)}$$

$$\lim_{x \rightarrow 1} \frac{1}{(x-1)} \left(1 - \frac{2}{(x+1)} \right)$$

$$\lim_{x \rightarrow 1} \frac{1}{\cancel{(x-1)}} \frac{\cancel{(x+1-2)}}{(x+1)}$$

$$\lim_{x \rightarrow 1} \frac{1}{(x+1)}$$

$$= \frac{1}{2}$$

//