

Homework 1

$$1. \lim_{x \rightarrow -4} \frac{x+4}{x^2+9x+20} = \lim_{x \rightarrow -4} \frac{\cancel{x+4}}{(\cancel{x+4})(x+5)} = \lim_{x \rightarrow -4} \frac{1}{(x+5)} = 1$$

$$2. \lim_{x \rightarrow 7} \frac{3x}{\sqrt{x+2}} = \frac{21}{\sqrt{9}} = 7$$

$$3. \lim_{x \rightarrow 1} \frac{x-3}{x^2+4x-21} = \lim_{x \rightarrow 1} \frac{\cancel{x-3}}{(\cancel{x-3})(x+7)} = \frac{1}{8}$$

$$4. -1$$

$$5. \text{DNE}$$