

$$1. \lim_{x \rightarrow -2} (3 - x)^3$$

$$\begin{aligned} \lim_{x \rightarrow -2} (3 + 2)^3 \\ = 5^3 = 125 \end{aligned}$$

$$2. \lim_{t \rightarrow 3} \sqrt{4t + 13}$$

$$\begin{aligned} \lim_{t \rightarrow 3} \sqrt{12 + 13} = 5 \end{aligned}$$

$$3. \lim_{y \rightarrow 3} 2|1 - y|$$

$$\begin{aligned} \lim_{y \rightarrow 3} 2|1 - 3| \\ = 2|-2| = 4 \end{aligned}$$

$$4. \lim_{t \rightarrow -4} \left(\frac{t+2}{t^2-t-6} \right)$$

$$\begin{aligned} \lim_{t \rightarrow -4} \left(\frac{-2}{16+4-6} \right) \\ = \frac{-2}{14} = -\frac{1}{7} \end{aligned}$$

$$5. \lim_{x \rightarrow 0} \frac{\sqrt{4-2x}-2}{4x}$$

$$= \frac{\sqrt{4-2x}-2}{4x} \cdot \frac{\sqrt{4-2x}+2}{\sqrt{4-2x}+2}$$

$$= \frac{\cancel{4}-2x-\cancel{4}}{4x(\sqrt{4-2x}+2)}$$

$$= \frac{-1}{2(\sqrt{4-2x}+2)}$$

$$\lim_{x \rightarrow 0} \frac{-1}{2\sqrt{4-2x}+2} = \frac{-1}{2(2+2)} = \frac{-1}{8} \#$$