

Source: [\[KBe2020math401index\]](#)

## 1 | Limit Laws

see [\[KBe2020math401srcLimitLawsBrainstorm\]](#).pdf

## 2 | Openstax Calculus Vol1 2.3 Exercises

• Link ## 84

$$\lim_{x \rightarrow 1} \frac{x^3 + 3x^2 + 5}{4 - 7x} = \frac{1 + 3 + 5}{4 - 7} = \frac{9}{-3} = \boxed{-3}$$

## 85

$$\lim_{x \rightarrow -2} \sqrt{x^2 - 6x + 3} = \sqrt{4 - (-12) + 3} = \boxed{\sqrt{19}}$$

## 86

$$\lim_{x \rightarrow 1} (9x + 1)^2 = (-9 + 1)^2 = \boxed{64}$$

## 94

$$\begin{aligned} \lim_{x \rightarrow 4} \frac{x^2 - 16}{x - 4} &\Rightarrow \frac{0}{4 - 4} = \frac{0}{0} \\ &= \lim_{x \rightarrow 2} \frac{x - 2}{x(x - 2)} = \lim_{x \rightarrow 2} \frac{1}{x} \end{aligned}$$

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