Source: [KBe2020math401index]

1 | **Limit Laws**

see [KBe20math401srcLimitLawsBrainstorm].pdf

2 | **Openstax Calculus Vol1 2.3 Exercises**

- **Link** ## 84

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

85

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

86

$$\lim_{x\to_1}(9x+1)^2=(-9+1)^2=\boxed{64}$$

94

$$\lim_{x\to 4}\frac{x^2-16}{x-4}=\frac{0}{4-4}=\frac{0}{0}$$

$$\Rightarrow \lim_{x\to 2}\frac{\cancel{x-2}}{x\cancel{(x-2)}}=\lim_{x\to 2}\frac{1}{x}=\frac{1}{2}$$

98

$$\lim_{h\to 0}\frac{\frac{1}{a+h}-\frac{1}{a}}{h}\Rightarrow\frac{\lim_{h\to 0}\frac{1}{a+h}-\lim_{h\to 0}\frac{1}{a}}{\lim_{h\to 0}h}$$
