MATH 131-03, Fall, 2017 Homework Section 2.3-1 - Solutions

Page 102:

12. $\lim_{x\to -3} \dfrac{x^2+3x}{x^2-x-12} \overset{\frac{0}{0}}{=} \lim_{x\to -3} \dfrac{(x+3)(x)}{(x+3)(x-4)} = \lim_{x\to -3} \dfrac{x}{x-4} = \dfrac{-3}{-7} = \dfrac{3}{7}$

18. $\lim_{h\to 0} \dfrac{(2+h)^3-8}{h} \overset{\frac{0}{0}}{=} \lim_{h\to 0} \dfrac{(8+3(4)h+3(2)h^2+h^3)-8}{h}$

$= \lim_{h\to 0} \dfrac{12h+6h^2+h^3}{h} = \lim_{h\to 0} \dfrac{h(12+6h+h^2)}{h}$

$= \lim_{h\to 0}(12+6h+h^2) = 12$