

15.1 Corrective Assignment #1 – Limits Analytically

Name: _____

Pre-Calculus

Find the value of each limit. No calculator is allowed.

1. $\lim_{x \rightarrow -3} (2x^2 + x - 5)$	2. $\lim_{x \rightarrow 1} (4x - 2x^2)$	3. $\lim_{x \rightarrow 5} \sqrt{3x - 11}$	4. $\lim_{x \rightarrow 3} 1$
5. $\lim_{x \rightarrow 0} (-5)$	6. $\lim_{x \rightarrow 3} \frac{\sqrt{x+4} + 2\sqrt{7}}{x}$	7. $\lim_{x \rightarrow -1} \frac{x^2 - 3x + 9}{x}$	8. $\lim_{x \rightarrow \frac{\pi}{4}} \sin(2x)$
9. $\lim_{x \rightarrow 2} \frac{x^2 + 3x}{x - 2}$	10. $\lim_{x \rightarrow -5} \frac{3x^3 + 14x^2 - 5x}{x^2 + 5x}$	11. $\lim_{x \rightarrow -3} \frac{2x^2 + 7x + 3}{x + 3}$	12. $\lim_{x \rightarrow 0} \frac{10x^2 - 3x}{x}$
13. $\lim_{x \rightarrow 7} \frac{-x^2 + 13x - 42}{x - 7}$	14. $\lim_{x \rightarrow 3} \frac{x^2 - x - 6}{3 - x}$	15. $\lim_{x \rightarrow 13} \frac{\sqrt{x+12} - 5}{x - 13}$	16. $\lim_{x \rightarrow 0} \frac{\sqrt{x+10} - \sqrt{10}}{x}$
17. $\lim_{x \rightarrow 0} \frac{\frac{1}{x+2} - \frac{1}{2}}{x}$	18. $\lim_{h \rightarrow 0} \frac{\frac{1}{2(x+h)} - \frac{1}{2x}}{h}$		
19. $\lim_{h \rightarrow 0} \frac{2(x+h)^2 - 4(x+h) - (2x^2 - 4x)}{h}$	20. $\lim_{h \rightarrow 0} \frac{5 - 2(x+h) - (5 - 2x)}{h}$		

Answers to 15.1 CA #1

1. 10	2. 2	3. 2	4. 1
5. -5	6. $\sqrt{7}$	7. -13	8. 1
9. Does not exist	10. -16	11. -5	12. -3
13. -1	14. -5	15. $\frac{1}{10}$	16. $\frac{1}{2\sqrt{10}}$
17. $-\frac{1}{4}$	18. $-\frac{1}{2x^2}$	19. $4x - 4$	20. -2