

AP Calculus AB
WS #3: Advanced Techniques of Limits
Fall 2018

Name _____

Date _____ Per _____

Evaluate the following limits if they exist:

1. $\lim_{x \rightarrow 3} \frac{x^2 - 2x - 3}{2x^2 - 5x - 3}$

1. _____

2. $\lim_{x \rightarrow 5} \frac{2x^3 - 7x^2 - 16x + 5}{x^2 - 4x - 5}$

2. _____

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

3. _____

4. $\lim_{x \rightarrow -2} \frac{x^3 + 8}{x + 2}$

4. _____

5. $\lim_{x \rightarrow \frac{5}{2}} \frac{2x - 5}{4x^2 - 25}$

5. _____

6. $\lim_{x \rightarrow 2} \frac{\sqrt{5+x} - \sqrt{7}}{x - 2}$

6. _____

7. $\lim_{x \rightarrow 3} \frac{[1/(2+x)] - (1/5)}{3 - x}$

7. _____

8. $\lim_{x \rightarrow 3} \frac{\sqrt{x+1} - 2}{x - 3}$

8. _____

9. $\lim_{x \rightarrow 1} \frac{\sqrt{5-x} - 2}{x - 1}$

9. _____

10. $\lim_{x \rightarrow 1} \frac{\sqrt{3+x} + 2}{1 + x}$

10. _____

11. $\lim_{x \rightarrow 2^+} \frac{|x - 2|}{x - 2}$

11. _____

12. $\lim_{x \rightarrow 2} \frac{3x - 6}{\sqrt{3x - 2} + 2}$

12. _____

13. $\lim_{x \rightarrow 3^-} \frac{3 - x}{|x - 3|}$

13. _____

14. $\lim_{x \rightarrow 2} \frac{x^2 - x - 2}{2x^3 + 3x^2 - 11x - 6}$

14. _____