

## Limits Worksheet

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

2.  $\lim_{x \rightarrow 0} \frac{x^2 - 2x - 3}{x^2 + 4x + 3}$

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

4.  $\lim_{x \rightarrow 1} \frac{x - 1}{x^2 + x - 2}$

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

6.  $\lim_{x \rightarrow 1} \frac{x^2 - 1}{x^2 + x - 2}$

7.  $\lim_{x \rightarrow 1} \frac{x^2 - 1}{x^2 - 2x + 1}$

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

9.  $\lim_{x \rightarrow 2} \frac{x^2 - 9}{x + 3}$

10.  $\lim_{x \rightarrow -3} \frac{x^2 - 9}{x + 3}$

11.  $\lim_{x \rightarrow 0} x^{-1} + 1 + x$

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

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

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

15.  $\lim_{x \rightarrow -5} \frac{(5+x)^2 - 25}{x}$

16.  $\lim_{x \rightarrow 1} \frac{x^2 - 1}{x^3 + 5x^2 - 6x}$

17.  $\lim_{x \rightarrow 0} \frac{(3+x)^{-1} - 3^{-1}}{x}$

18.  $\lim_{x \rightarrow 1} x^2 - x + \sqrt{2x - 1}$

19.  $\lim_{x \rightarrow -4} \frac{\sqrt{x^2 + 9} - 5}{x + 4}$

20.  $\lim_{x \rightarrow 0} \left( \frac{1}{x\sqrt{1+x}} - \frac{1}{x} \right)$

21.  $\lim_{x \rightarrow 0} \frac{\sqrt{1+x} - \sqrt{1-x}}{x}$

22.  $\lim_{x \rightarrow 0} \frac{\sqrt{1+x} - \sqrt{1-x}}{\sqrt{1+x} + \sqrt{1-x}}$

23.  $\lim_{x \rightarrow 0} \frac{\sqrt{9+x} - 3}{x}$

24.  $\lim_{x \rightarrow 1} \frac{\sqrt{1-x}}{x-1}$

25.  $\lim_{x \rightarrow 0} \frac{\sqrt{1+2x} - \sqrt{1-3x}}{x}$

26.  $\lim_{x \rightarrow 0} \frac{x}{\sqrt{x^2 + 2x} - x}$