

# Trig Limits Worksheet

1.  $\lim_{x \rightarrow 0} \frac{x}{\sin x}$

2.  $\lim_{x \rightarrow 0} \frac{\sin^3 x}{(2x)^3}$

3.  $\lim_{x \rightarrow 0} \frac{3x + \sin x}{x}$

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

5.  $\lim_{x \rightarrow 0} \frac{1 - \cos 3x}{x}$

6.  $\lim_{x \rightarrow 0} \frac{x^2 + 4}{x + \cos x}$

7.  $\lim_{x \rightarrow 0} \frac{3x^2 + 2x \sin x}{x^2}$

8.  $\lim_{x \rightarrow 0} \frac{\cos x}{1 - \sin x}$

9.  $\lim_{x \rightarrow 0} \frac{\sin x}{1 + \cos x}$

10.  $\lim_{x \rightarrow 0} \frac{1 - \cos x}{\sin^2 x}$

11.  $\lim_{x \rightarrow 0} \frac{\sin\left(\frac{x}{2}\right)}{3x}$

12.  $\lim_{x \rightarrow 0} \frac{x + \sin x}{\tan x}$

13.  $\lim_{x \rightarrow 0} \frac{\sin^2 2x}{x^2}$

14.  $\lim_{x \rightarrow 0} x \cot x$

15.  $\lim_{x \rightarrow 0} \frac{\csc 2x}{\cot x}$

16.  $\lim_{x \rightarrow 0} x^2 \csc^2 3x$

17.  $\lim_{x \rightarrow 0} \frac{\sin 3x}{\sin 5x}$

18.  $\lim_{x \rightarrow 0} \frac{\cot 2x}{\cot 5x}$

19.  $\lim_{x \rightarrow 0} \frac{\cos 3x}{\cot 5x}$

20.  $\lim_{x \rightarrow 0} \frac{\cos 3x - 1}{x^2}$

Answers:

- 1
- 1/8
- 4
- 2/3
- 0
- 4
- 5
- 1
- 0
- 1/2
- 1/6
- 2
- 4
- 1
- 1/2
- 1/9
- 3/5
- 5/2
- 0
- 9/2