

Name: _____

Trigonometric Limits

Exercise 1: Determine the limit of the trigonometric function if it exists.

1) $\lim_{x \rightarrow 1} \sin \frac{\pi x}{2}$

2) $\lim_{x \rightarrow 0} \frac{\sin 4x}{x}$

3) $\lim_{x \rightarrow 0} \frac{\sin x}{3x}$

4) $\lim_{x \rightarrow 0} \frac{\sin 3x}{x}$

5) $\lim_{\theta \rightarrow 0} \frac{\sec \theta - 1}{\theta \sec \theta}$

6) $\lim_{x \rightarrow 0} \frac{\tan^2 x}{x}$

7) $\lim_{x \rightarrow 0} \frac{(1 - \cos x) \tan x}{x}$

8) $\lim_{x \rightarrow \pi/4} \frac{1 - \tan x}{\sin x - \cos x}$

9) $\lim_{\theta \rightarrow \pi} \theta \sec \theta$

10) $\lim_{x \rightarrow 0} \frac{\tan x}{x}$

11) $\lim_{x \rightarrow 1} x \tan \frac{\pi x}{2}$

12) $\lim_{x \rightarrow 7} \sec \frac{\pi x}{6}$

13) $\lim_{x \rightarrow 0} 3 \cot x$

14) $\lim_{\theta \rightarrow 0} \frac{\sin(2\theta)}{\theta}$