

LIMITS AND DERIVATIVES

LIMITS OF TRIGONOMETRIC FUNCTIONS

EXERCISE

Q.1 Find the value $\lim_{x \rightarrow 0} \frac{\sqrt{x+1} - 1}{x}$

Q.2 Find the value $\lim_{x \rightarrow 0} \frac{\sin 5x}{\tan 3x}$

Q.3 Find the value $\lim_{x \rightarrow 0} \frac{1 - \cos 5x}{1 - \cos 6x}$

Q.4 Find the value $\lim_{x \rightarrow 0} \frac{(x+1)^5 - 1}{x}$

Q.5 Find the value $\lim_{x \rightarrow 0} \frac{1 - \cos x}{\sin^2 x}$

ANSWER KEY

1. $\frac{1}{2}$
2. $\frac{5}{3}$
3. $\frac{25}{36}$
4. 5
5. $\frac{1}{2}$