guessmaths

Série d'exercices « Les limites trigonométriques» ***1ére Bac Sc.Exp***

Exercice 1

Calculer

1° $\lim\limits_{x\to 0}\dfrac{\sin(5x)}{7x}$; $\lim\limits_{x\to 0}\dfrac{5x}{\tan(7x)}$

2° $\lim\limits_{x\to 0}\dfrac{\sin(5x)}{\sin(7x)}$; $\lim\limits_{x\to 0}\dfrac{\sin(5x)}{\tan(7x)}$.

Exercice 2

Calculer :

1° $\lim\limits_{x\to 0}\dfrac{\sin^2 x}{\tan^2 x}$; $\lim\limits_{x\to 0}\dfrac{\sin^2 x}{1-\cos x}$

2° $\lim\limits_{x\to 0}\dfrac{1-\cos x}{x}$; $\lim\limits_{x\to 0}\dfrac{\sin x-\cos x+1}{x}$

Exercice 3

Calculer $\lim\limits_{x\to 0}\dfrac{\sin 2x}{\sqrt{1-\cos x}}$; $\lim\limits_{x\to 0}\dfrac{\tan x-\sin x}{x^3}$

Exercice 4

Calculer :

1° $\lim\limits_{x\to \frac{\pi}{2}}(\sin x-1)\tan^2 x$; $\lim\limits_{x\to a}\dfrac{\cos x-\cos a}{\sin x-\sin a}$

2° $\lim\limits_{x\to a}\dfrac{\tan x-\tan a}{\cos x-\cos a}$; $\lim\limits_{x\to \frac{\pi}{3}}\dfrac{\sin(3x)}{1-2\cos x}$

Exercice 5

Calculer :

1° $\lim\limits_{x\to 0}\dfrac{\sin x-\sin(2x)}{x^2}$

2° $\lim\limits_{x\to -\infty}\dfrac{2\cos x-4}{x}$.

Exercice 6

Calculer :

1° $\lim\limits_{x\to 0}\dfrac{x\tan(x)}{\cos^2(x)-1}$; $\lim\limits_{x\to -\infty}-x+\sin(2x)$

2° $\lim\limits_{x\to 0}\dfrac{-3\sin x+2}{x^2+1}$; $\lim\limits_{x\to 0}\dfrac{x^2-x}{\sin x}$

3° $\lim\limits_{x\to \frac{\pi}{4}}\dfrac{\tan(x)-1}{x-\frac{\pi}{4}}$. ; $\lim\limits_{x\to 0}\dfrac{\cos(a+x)-\cos a}{x}$