

Evaluating Trigonometric Functions

A) Evaluate each function at the specified value.

1) $f(x) = \frac{8\sec^3 x}{\cos x}$; $x = 2\pi$

2) $f(x) = 5\cot x \cdot 2\tan x$; $x = \left(-\frac{5\pi}{6}\right)$

B) Evaluate each function.

1) $f(x) = 4 \sin x - 3\cot x + 4\cos x$; find $f\left(-\frac{\pi}{2}\right)$

C) If $f(x) = 6\tan x \cdot 3\sec x$

1) $f(-\pi) =$ _____

3) $f\left(-\frac{5\pi}{3}\right) =$ _____

D) If $f(x) = 2\tan^2 x + \cot x$

1) $2f\left(\frac{3\pi}{4}\right) \times f\left(\frac{2\pi}{3}\right)$

= _____

3) $f\left(\frac{7\pi}{4}\right) + 3f\left(\frac{11\pi}{6}\right) =$ _____

4) $\frac{f\left(\frac{4\pi}{3}\right)}{f\left(\frac{\pi}{4}\right)} =$ _____

E) What is the value of $f\left(\frac{11\pi}{6}\right)$, if $f(x) = 3\sec x - \sin 4x$?

i) $-\frac{5\sqrt{3}}{2}$

ii) $\frac{3\sqrt{3}}{2}$

iii) $\frac{4\sqrt{3}}{2}$

iv) $\frac{5\sqrt{3}}{2}$

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A) Evaluate each function at the specified value.

1) $f(x) = \frac{8\sec^3 x}{\cos x}$; $x = 2\pi$

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2) $f(x) = 5\cot x \cdot 2\tan x$; $x = \left(-\frac{5\pi}{6}\right)$

10

B) Evaluate each function.

1) $f(x) = 4 \sin x - 3\cot x$

$-2 + 3\sqrt{3}$

$+ 4\cos x$; find $f\left(-\frac{\pi}{2}\right)$

2

C) If $f(x) = 6\tan x \cdot 3\sec x$

1) $f(-\pi) =$ _____

12

3) $f\left(-\frac{5\pi}{3}\right) =$ _____

$-18\sqrt{2}$

D) If $f(x) = 2\tan^2 x + \cot x$

1) $2f\left(\frac{3\pi}{4}\right) \times f\left(\frac{2\pi}{3}\right)$

$-\frac{2\sqrt{3}}{3}$

3) $f\left(\frac{7\pi}{4}\right) + 3f\left(\frac{11\pi}{6}\right) =$ $3(1 - \sqrt{3})$

4) $\frac{f\left(\frac{4\pi}{3}\right)}{f\left(\frac{\pi}{4}\right)} =$ $\frac{18 + \sqrt{3}}{9}$

E) What is the value of $f\left(\frac{11\pi}{6}\right)$, if $f(x) = 3\sec x - \sin 4x$?

i) $-\frac{5\sqrt{3}}{2}$

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