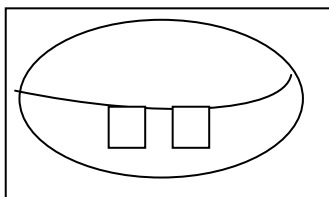


Trig Calculus Review



Find the Caption to Fit the Picture

12 3 11 6 5 13 4 10 8 9 12 7 4 1 1 4 10

Solve the problems below and place the corresponding letter for the solution in the blanks above.

Problems

1. Determine $\frac{dy}{dx}$ if $y = \cot x$.

2. If $y = \cos(2x)$, determine $\frac{d^2y}{dx^2}$.

3. Determine $f'(x)$ if $f(x) = \sec x$.

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

5. Evaluate $\lim_{x \rightarrow 0} \left(2x \sin \left(\frac{1}{x} \right) \right)$.

Answers

A. 1

B. $-8 \sin x \cos x$

C. $\frac{2x-2}{49}$

D. $-4 \cos(2x)$

E. $-\csc^2 x$

6. Evaluate $\lim_{x \rightarrow 0} (2x \cot x)$.

F. $\sin(x)$

7. Determine $\frac{dy}{dx}$ if $y^2 = \sin x$.

G. $\tan(x)$

8. If $y = (\sin x + \cos x)^2$, determine $\frac{d^2 y}{dx^2}$.

H. $-\frac{2 \cos x}{\sin^3 x}$

9. Determine $\frac{dy}{dx}$ if $y = \cos^2(4x)$.

I. $64x - 112$

10. Determine $\frac{dy}{dx}$ if $y = \frac{1}{\sin^2 x}$.

J. $\sin(4x)\cos(4x)$

11. Evaluate $\lim_{x \rightarrow 0} (\sin(5x)\cot(5x))$.

K. $\frac{\cos x}{2y}$

12. Determine $\frac{dy}{dx}$ if $y = t^2$ and $x = 7t + 1$.

L. $\sec x \tan x$

13. Determine $\frac{dy}{dx}$ if $y = 2u^2$ and $u = 4x - 7$.

M. 2

T. 3

U. $-8\cos(4x)\sin(4x)$

W. 0