

Match-Up Integration with Inverse Trig Functions

1

$$\int \frac{4}{1+x^2} dx$$

2

$$\int \frac{9}{1+x} dx$$

3

$$\int \frac{9}{\sqrt{1-x^2}} dx$$

4

$$\int \frac{4}{9+x^2} dx$$

5

$$\int \frac{4}{\sqrt{1+9x}} dx$$

6

$$\int \frac{4}{\sqrt{9-x^2}} dx$$

7

$$\int \frac{1}{9 + 4x^2} dx$$

8

$$\int \frac{9}{\sqrt{1-4x^2}} dx$$

9

$$\int \frac{9x}{4+x^2} dx$$

10

$$\int \frac{1}{\sqrt{4-9x^2}} dx$$

11

$$\int \frac{4x - 1}{\sqrt{9 - x^2}} dx$$

12

$$\int \frac{4x + 9}{x^2 + 4} dx$$

A

$$\frac{4}{3} \arctan\left(\frac{x}{3}\right) + c$$

B

$$2 \ln(x^2 + 4) + \frac{9}{2} \arctan\left(\frac{x}{2}\right) + c$$

C

$$\frac{1}{3} \arcsin\left(\frac{3x}{2}\right) + c$$

D

$$9 \ln |1 + x| + c$$

E

$$\frac{9}{2} \ln (4+x^2)+c$$

F

$$9 \arcsin(x) + c$$

G

$$4 \arcsin \left(\frac{x}{3} \right) + c$$

H

$$4 \arctan(x) + c$$

I

$$-4\sqrt{9-x^2} - \arcsin\left(\frac{x}{3}\right) + c$$

J

$$\frac{9}{2}\arcsin(2x) + c$$

K

$$\frac{8}{9}\sqrt{1+9x}+c$$

L

[illegible]