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	$9\ln\lvert 1+x\rvert+c$
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	$\frac{9}{4}\arcsin(4x)+c$
K	$\frac{8}{9}\sqrt{1+9x}+c$
L	$\frac{1}{6}\arctan\left(\frac{2x}{3}\right)+c$

1	2	3	4	5	6	7	8	9	10	11	12
H	D	F	A	K	G	L	J	E	C	I	B