

Differentiation of Inverse Trig Functions Codebreaker

A	B	C	D	E
$\frac{1}{\sqrt{6-x^2}}$	$\frac{2}{\sqrt{16-x^2}} + x \sin^{-1} \frac{x}{4}$	$(x^2 + 2x)(2x + 2) + \frac{\cos^{-1} \frac{x}{5}}{\sqrt{25-x^2}}$	$\frac{1}{\sqrt{64-x^2}} - \frac{1}{\sqrt{22-x^2}}$	$\frac{\sin^{-1} \frac{x}{4}}{\sqrt{16-x^2}} + 4x$
F	G	H	I	J
$\frac{2x}{\sqrt{8-x^2}} + 2 \sin^{-1} \frac{x}{4}$	$\frac{2x}{\sqrt{16-x^2}} + 2 \sin^{-1} \frac{x}{4}$	$(2x + 2) \cos^{-1} \frac{x}{5} - \frac{x^2 + 2x}{\sqrt{25-x^2}}$	$\frac{1}{\sqrt{64-x^2}} - \frac{1}{\sqrt{121-x^2}}$	$\frac{\sin^{-1} \frac{x}{2} - x}{(\sin^{-1} \frac{x}{4})^2}$
K	L	M	N	O
$\frac{\sqrt{2-x^2} \sin^{-1} \frac{x}{2} - x}{\sqrt{2-x^2} (\sin^{-1} \frac{x}{2})^2}$	$\frac{1}{\sqrt{9-x^2}}$	$\frac{1}{\sqrt{16-x^2}} - \frac{1}{\sqrt{121-x^2}}$	$4x + \sin^{-1} \frac{x}{4} \sqrt{16-x^2}$	$(x^2 + 2x)(2x + 2) + \frac{\cos^{-1} \frac{x}{5}}{\sqrt{10-x^2}}$
P	Q	R	S	T
$\frac{1}{\sqrt{16-x^2}} - \frac{1}{\sqrt{22-x^2}}$	$-\frac{1}{\sqrt{9-x^2}}$	$\frac{1 + \sin^{-1} \frac{x}{2} - x}{\sqrt{4-x^2} (\sin^{-1} \frac{x}{2})^2}$	$\frac{1}{\sqrt{64-x^2}} + \frac{1}{\sqrt{121-x^2}}$	$\frac{\sqrt{4-x^2} \sin^{-1} \frac{x}{2} - x}{\sqrt{4-x^2} (\sin^{-1} \frac{x}{2})^2}$
U	V	W		
$-\frac{1}{\sqrt{6-x^2}}$	$(2x + 2) \cos^{-1} \frac{x}{5} - \frac{x^2 + 2x}{\sqrt{10-x^2}}$	$-(2x + 2) \cos^{-1} \frac{x}{5} - \frac{x^2 + 2x}{\sqrt{25-x^2}}$		
X	Y	Z		
$\frac{1}{\sqrt{8-x^2}} + \frac{1}{\sqrt{22-x^2}}$	$(x^2 + 2x)(2x + 2) - \frac{\cos^{-1} \frac{x}{5}}{\sqrt{25-x^2}}$	$\frac{\sin^{-1} \frac{x}{2}}{(\sin^{-1} \frac{x}{4})^2}$		

What can go through glass without breaking it?

Differentiate the expressions below and link your answers to the table to answer the riddle:

$\sin^{-1} \frac{x}{3}$	$\sin^{-1} \frac{x}{8} + \cos^{-1} \frac{x}{11}$	$2x \sin^{-1} \frac{x}{4}$	$(x^2 + 2x) \cos^{-1} \frac{x}{5}$	$\frac{x}{\sin^{-1} \frac{x}{2}}$
$\frac{1}{\sqrt{9-x^2}}$	$\frac{1}{\sqrt{64-x^2}} - \frac{1}{\sqrt{121-x^2}}$	$\frac{2x}{\sqrt{16-x^2}} + 2 \sin^{-1} \frac{x}{4}$	$(2x + 2) \cos^{-1} \frac{x}{5} - \frac{x^2 + 2x}{\sqrt{25-x^2}}$	$\frac{\sqrt{4-x^2} \sin^{-1} \frac{x}{2} - x}{\sqrt{4-x^2} (\sin^{-1} \frac{x}{2})^2}$
L	I	G	H	T