

Sudoku Puzzle with Limits

A Puzzle by David Pleacher

Solve the 28 limit problems below and place the answer in the corresponding cell (labeled A, B, C, ... Y, Z, a, b). Your answers should be integers from 1 to 9 inclusive. Then solve the resulting SUDOKU puzzle.

The rules of Sudoku are simple.

Enter digits from 1 to 9 into the blank spaces.

Every row must contain one of each digit.

So must every column, and so must every 3x3 square.

Each Sudoku has a unique solution that can be reached logically without guessing.

A. $\lim_{x \rightarrow 1} 3x$

B. $\lim_{x \rightarrow 2} (2x + 5)$

C. $\lim_{x \rightarrow 2} (2x^2 - 2x + 4)$

D. $\lim_{x \rightarrow 3} \frac{x+2}{x-2}$

E. $\lim_{x \rightarrow 7} (9)$

F. $\lim_{x \rightarrow 4} \frac{-4(x^2 - 11x + 28)}{x^2 - 4x}$

G. $\lim_{x \rightarrow \frac{\pi}{2}} 2 \tan\left(\frac{x}{2}\right)$

H. $\lim_{x \rightarrow -2} \left(\frac{x^2 - 4}{x^2 + 4} - \frac{14}{x} \right)$

I. $\lim_{h \rightarrow 0} \left(\frac{(2+h)^2 - 2^2}{h} \right)$

J. $\lim_{x \rightarrow 2} \left(\frac{4 - x^2}{3 - \sqrt{x^2 + 5}} \right)$

$$\text{K. } \lim_{k \rightarrow \infty} \left(\frac{10k-2}{2k+7} \right)$$

$$\text{L. } \lim_{x \rightarrow 4} \sqrt{25-x^2}$$

$$\text{M. } \lim_{x \rightarrow \pi} \left(12 \sin \left(\frac{x}{6} \right) \right)$$

$$\text{N. } \lim_{p \rightarrow \infty} \left(\frac{16p^2-10p-2}{5-2p+2p^2} \right)$$

$$\text{O. } \lim_{x \rightarrow 2} \left(\frac{x^2-4}{x-2} \right)$$

$$\text{P. } \lim_{x \rightarrow 4} \left(\frac{x^2-x-12}{x-4} \right)$$

$$\text{Q. } \lim_{x \rightarrow -1} \frac{2x^2+7x+5}{x+1}$$

$$\text{R. } \lim_{x \rightarrow 0} \frac{16(\sqrt{1+x}-1)}{x}$$

$$\text{S. } \lim_{x \rightarrow -4} \frac{-3x-23}{2x-3}$$

$$\text{T. } \lim_{x \rightarrow 2} \left(\frac{x^2-1}{x-1} \right)$$

$$\text{U. } \lim_{x \rightarrow 3} \left(\frac{2x^3-54}{x^2-9} \right)$$

$$\text{V. } \lim_{x \rightarrow -1} \left(\frac{2x^2+8x+6}{x^2+3x+2} \right)$$

$$\text{W. } \lim_{x \rightarrow 1} \left(\frac{2x-2}{\sqrt{x^2+3}-2} \right)$$

$$\text{X. } \lim_{x \rightarrow +\infty} \left((x^2 + 5) + (2 - x^2) \right)$$

$$\text{Y. } \lim_{x \rightarrow 4} \frac{x^2 - 7x + 12}{x - 4}$$

$$\text{Z. } \lim_{x \rightarrow 1} \left(\frac{\frac{3x}{1-x}}{\frac{1}{1-x^2}} \right)$$

$$\text{a. } \lim_{x \rightarrow \infty} \left(\frac{2 - 2x^2 + 9x^4}{x^4 + 3x^3 - 2x} \right)$$

$$\text{b. } \lim_{x \rightarrow 3} \frac{-x^2 + 7x - 12}{x - 3}$$

A			B					
			C		D		E	F
G		H		I			J	
			K			L		
M	N						O	P
		Q			R			
	S			T		U		V
W	X		Y		Z			
					a			b

Solution to the Sudoku With Limits Puzzle

$$A = 3$$

$$B = 9$$

$$C = 8$$

$$D = 5$$

$$E = 9$$

$$F = 3$$

$$G = 2$$

$$H = 7$$

$$I = 4$$

$$J = 6$$

$$K = 5$$

$$L = 3$$

$$M = 6$$

$$N = 8$$

$$O = 4$$

$$P = 7$$

$$Q = 3$$

$$R = 8$$

$$S = 1$$

$$T = 3$$

$$U = 9$$

$$V = 4$$

$$W = 4$$

$$X = 7$$

$$Y = 1$$

$$Z = 6$$

$$a = 9$$

$$b = 1$$

3	5	8	9	6	7	4	1	2
1	6	4	8	2	5	7	9	3
2	9	7	3	4	1	8	6	5
9	2	1	5	7	4	3	8	6
6	8	5	2	9	3	1	4	7
7	4	3	6	1	8	5	2	9
8	1	6	7	3	2	9	5	4
4	7	9	1	5	6	2	3	8
5	3	2	4	8	9	6	7	1