NC EMPT'S QUESTION of the week

Question 22
February 10, 2025

What kind of function would best model the data below, where x is the independent variable and y is the dependent variable?

x	-3	-2	-1	0	1	2	3	4
y	8	4	2	1	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{16}$

A. quadratic B. linear C. exponential D. rational E. absolute value

Last Week's Answer

Find the slope of a line that is perpendicular to the line whose equation is $5x + 2y = 8$

A. $-\frac{5}{2}$ B. $-\frac{1}{5}$ C. $\frac{2}{5}$ D. $\frac{5}{2}$ E. 4

Solution:

One method is to convert this equation to the y-intercept form of a line ($y = mx + b$):

$$5x + 2y = 8$$
$$2y = -5x + 8$$
$$y = -\frac{5}{2}x + 4$$

The slope of this line is $-\frac{5}{2}$. The slope of any line perpendicular to the given line is the negative reciprocal of $-\frac{5}{2}$, which is $\frac{2}{5}$.

Each week, we'll reveal the answer to the previous week's question!

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