

Name:

Answers!

Class:



Communication



Successful Partnership



Encouragement

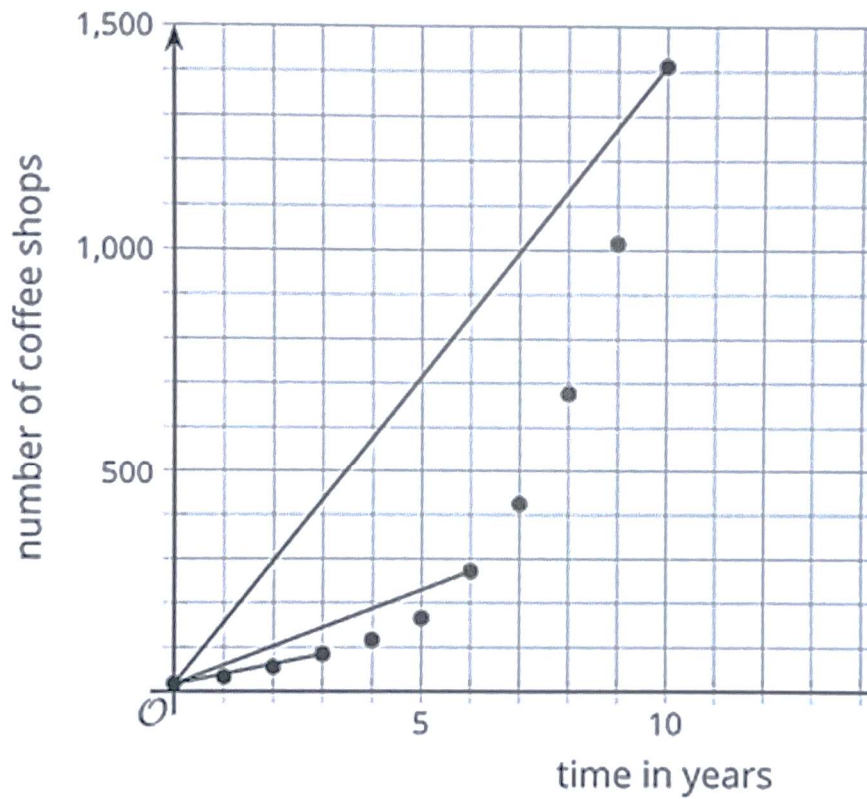


Solving Problem Together



Collaboration

In the below, year 0 is 1987.



year	number of stores
1987	17
1988	33
1989	55
1990	84
1991	116
1992	165
1993	272
1994	425
1995	677
1996	1,015
1997	1,412

Answer the questions on the back.

Part A

What was the average rate of new coffee shops in years 0-3?

year 0  $\rightarrow$  17  
year 3  $\rightarrow$  84

$\frac{\text{change in } y}{\text{change in } x}$

$$84 - 17 = 67$$

$$\frac{67}{3} = 22\frac{1}{3}$$

Part B

What was the average rate of new coffee shops in years 0-6?

year 0  $\rightarrow$  17  
year 6  $\rightarrow$  272

$$\frac{255}{6} = 42.5$$

$\downarrow$   
on average,  
they added  
 $22\frac{1}{3}$  shops  
each year  
for first  
3 years

Part C

What was the average rate of new coffee shops in years 0-10?

year 0  $\rightarrow$  17  
year 10  $\rightarrow$  1412

$$\frac{1395}{10} = 139.5$$

Part D

Explain how the average rate of change from years 0-10 may be misleading.

average rate of change is misleading for exponential growth rates.

The company added an average of 139.5 shops during its first 10 years, but it only added 16 in year one.