

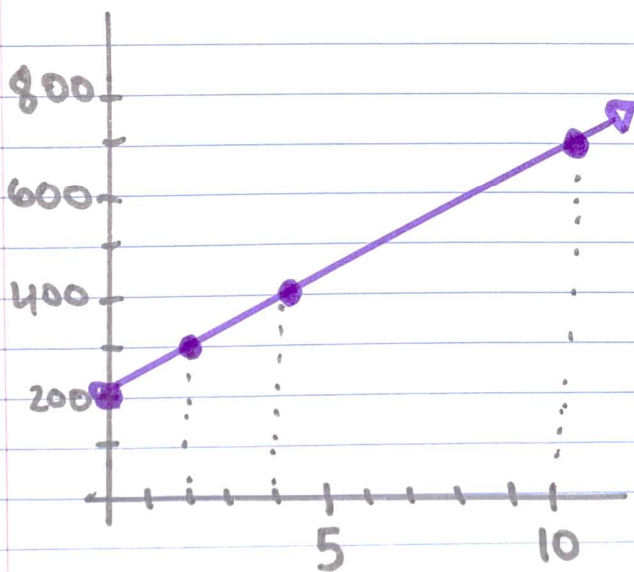
LESSON 5-10 → Why Average Rate of Change is Bad Here

Average rate of change is GOOD for 8th grade Linear Functions

Years 0 (+2) 2 (+2) 4 (+6) 10

Fish 200 300 400 700

(+100) (+100) (+300)



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

$$\frac{100}{2} = 50$$

$$\frac{300}{6} = 50$$

$$y = 50x + 200$$

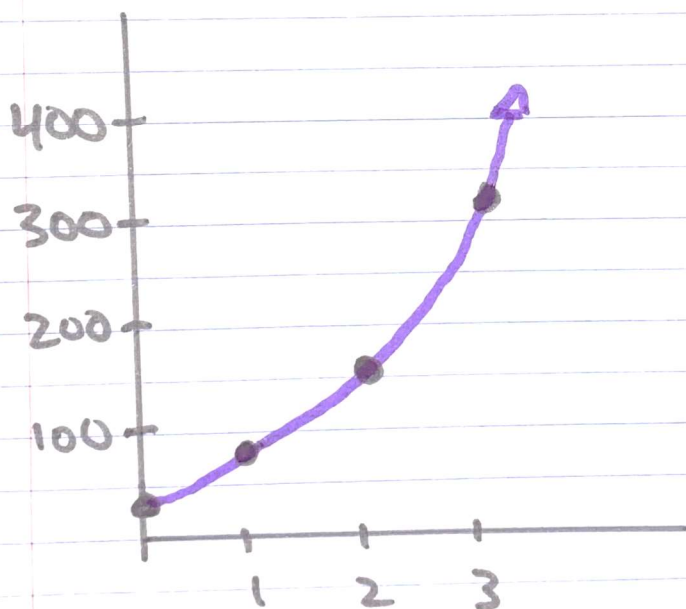
Average Rate of Change is Bad for Algebra 1 exponential functions

Years	0	1	2	3
fish	40	80	160	320

$+1$ $+1$ $+1$

$+40$ $+80$ $+160$

$\times 2$ $\times 2$ $\times 2$



$$\frac{80}{40} = 2$$

$$\frac{160}{80} = 2$$

$$\frac{320}{160} = 2$$

$$f(x) = 40(2)^x$$

SAME problem as before

years	0	1	2	3
fish	40	80	160	320

What is the average rate of change from year 1 to year 3?

$$\frac{\Delta \text{fish}}{\Delta \text{year}} = \frac{320 - 80}{3 - 1} = \frac{240}{2} = 120$$

The Problem is
that 120
does not give
you much help
understanding the
story 😞