This book has permission to use the "N&K method of COLORS".

For Questions 22 & 23, refer to the following information

Kids taking AP Courses in grade 12 in Henry County in 2013-17					
	2013	***2014***	***2015***	***2016***	***2017***
AP Biology	*353*	*379*	*407*	*442*	*461*
AP Math	*251*	*273*	*308*	*339*	*358*
AP Physics	*233*	*271*	*311*	*349*	*369*
AP Spanish	*609*	*638*	*661*	*697*	*732*
AP French	*113*	*129*	*142*	*168*	*179*

22) Question: In the choices given below, what is closest to the average rate of change in the number of kids taking AP Biology from 2013 to 2017?

A) 22
B) 27
C) 32
D) 37

nw

For speed, while solving something similar, only THINK the words in blue; WRITE only the words in other COLORS.

Given: 1) From 2013 to 2017, the number of kids taking AP Biology changed from 353 to 461.
Solve: In the choices given above, what is closest to the average rate of change in the number of kids taking AP Biology from 2013 to 2017??

Road Map of Solution:
First Step: Find the change (difference) in the number of kids taking AP Biology in 2017 and 2013.
Second Step: Find the number of changes involved.
Third Step: Find the average rate of change, $\frac{\text{change in the number of kids from 2013 to 2017}}{\text{number of years}}$

First Step: Find the change (difference) in the number of kids taking AP Biology in 2017 and 2013.
= 461-353
= 108

Second Step: Find the number of changes years involved.
2) The number of changes involved were 4.
1st change: 2013 to 2014; 2nd change: 2014 to 2015; 3rd change: 2015 to 2016; 4th change: 2016 to 2017;

Third Step: Find the average rate of change,

$= \frac{\text{total change}}{\text{total number of changes involved}}$

$= \frac{\text{total change in the number of kids from 2013 to 2017}}{\text{total number of changes involved}}$

$= \frac{461-353}{4}$

$= \frac{108}{4}$

$= \frac{\cancel{108}}{\cancel{4}}$

$= \frac{27}{1}$

= 27 ..... *Answer(B)*