MrF Name: _____

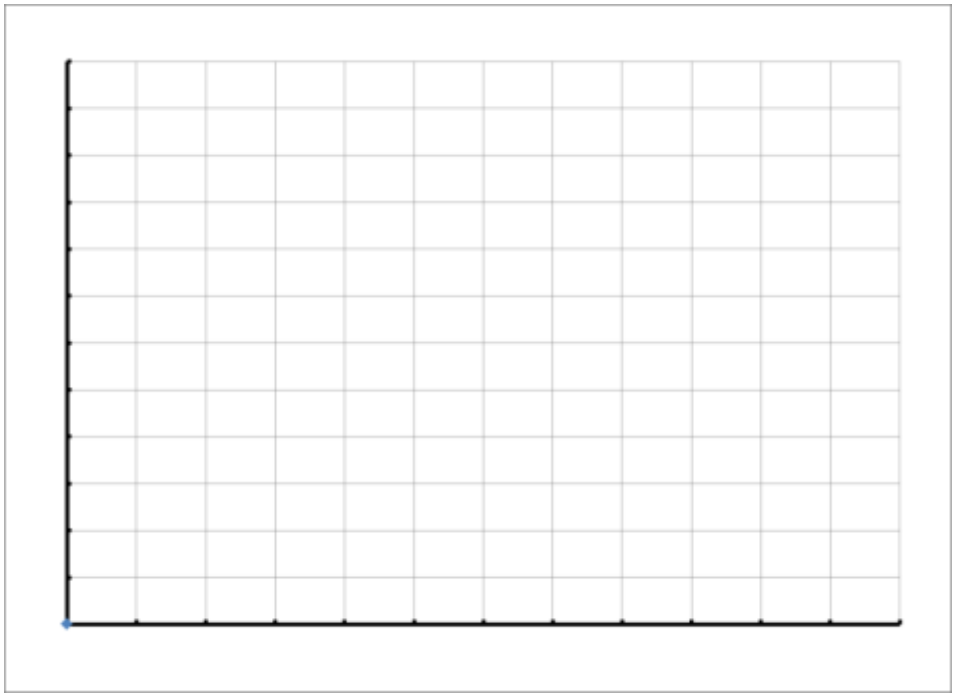
UNIT B – PERSONAL FINANCE: GRAPHING INVESTMENTS ON DESMOS GRAPHING CALCULATOR

Karen wants to invest **$2,500** for some length of time. She can do a **Simple** Interest account at 12% APR **or** a **Compound** Interest account compounded *monthly* at 12% APR. Graph the possibilities for the next **12** years.

How to graph manually. **Complete the table** below for each year for each type of investment. We did everything on paper in the 70's! No calculators

Year; t	Simple Amount ; A **A = 2500*(1+0.12*t)**	Compound Amount; A $A = 2500 * \left(1 + \frac{0.12}{12}\right)^{t*12}$
0	2500	2500
1	2800	2817.06 (**2800** is close enough to graph)
2		
3	etc	etc
5		
10		
12		

Manually plot the points! Years of time along the bottom, $ value along the vertical side. 'Scale' it first. Connect the dots with a smooth curve.

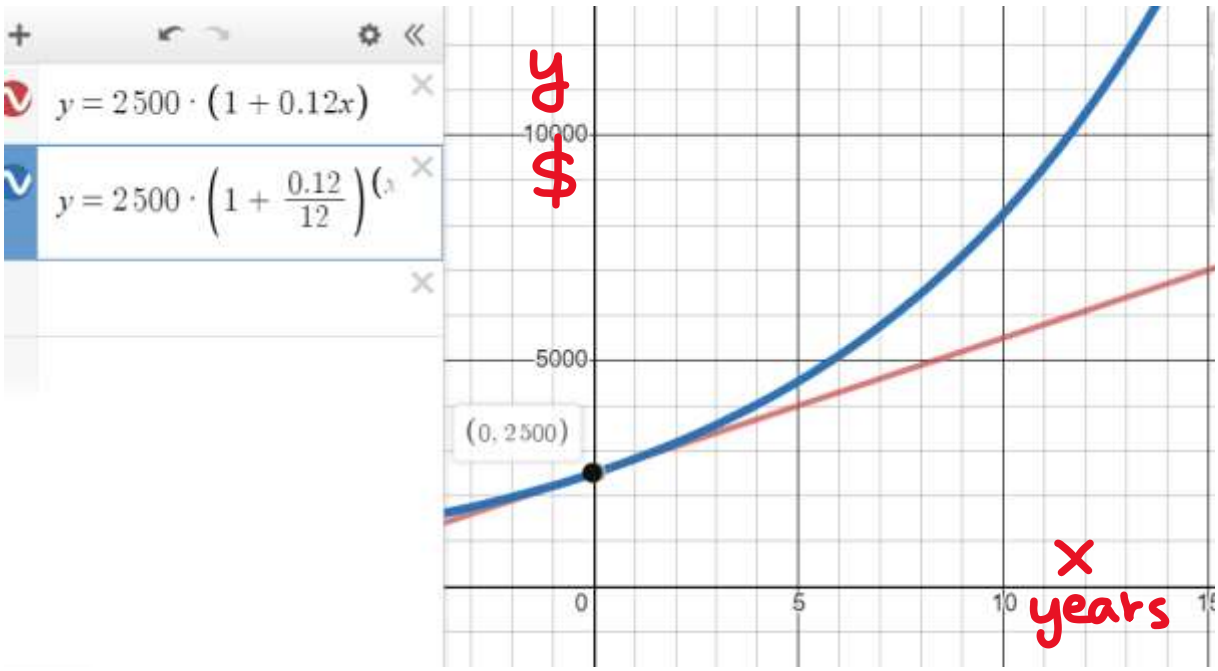


MrF

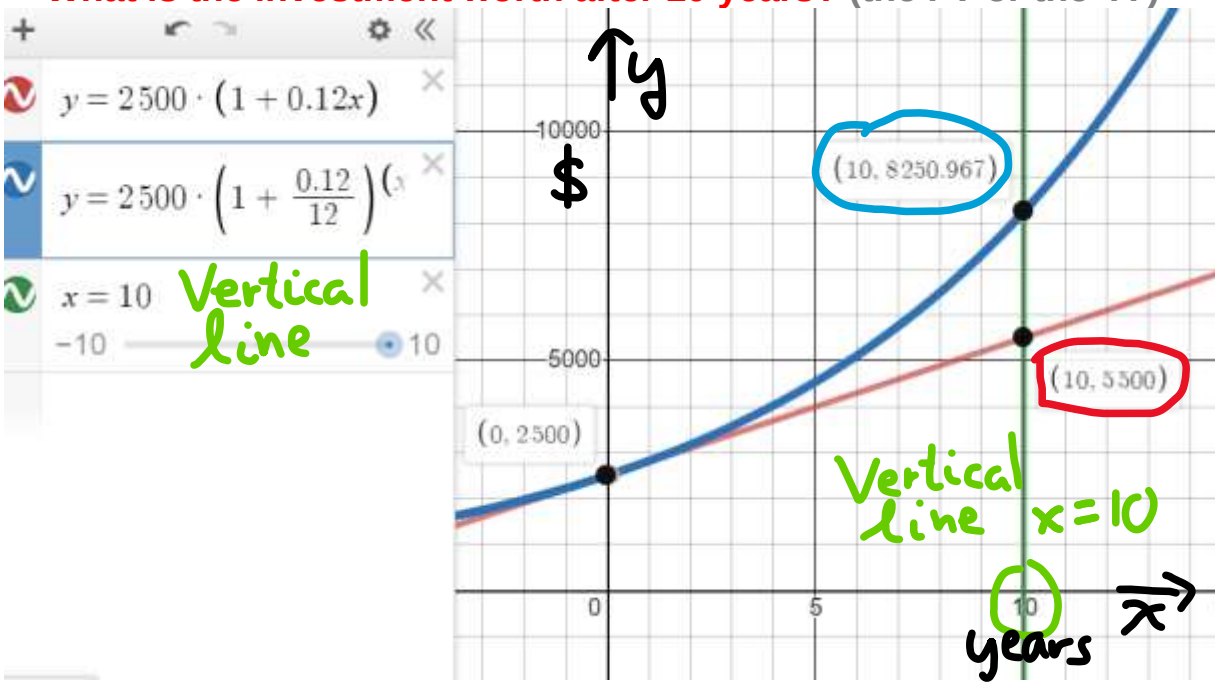
OR !

BETTER YET. Use a graphing tool! The DESMOS one is readily available on-line, or as downloads. There are another dozen Apps on your phone or other device that also graph. (eg: *Geogebra*)

X and Y VARIABLES. Graphing tools only understand **Y** and **X**, not **A** and **t**, etc. So, everything is Y and X when expressing formulae.

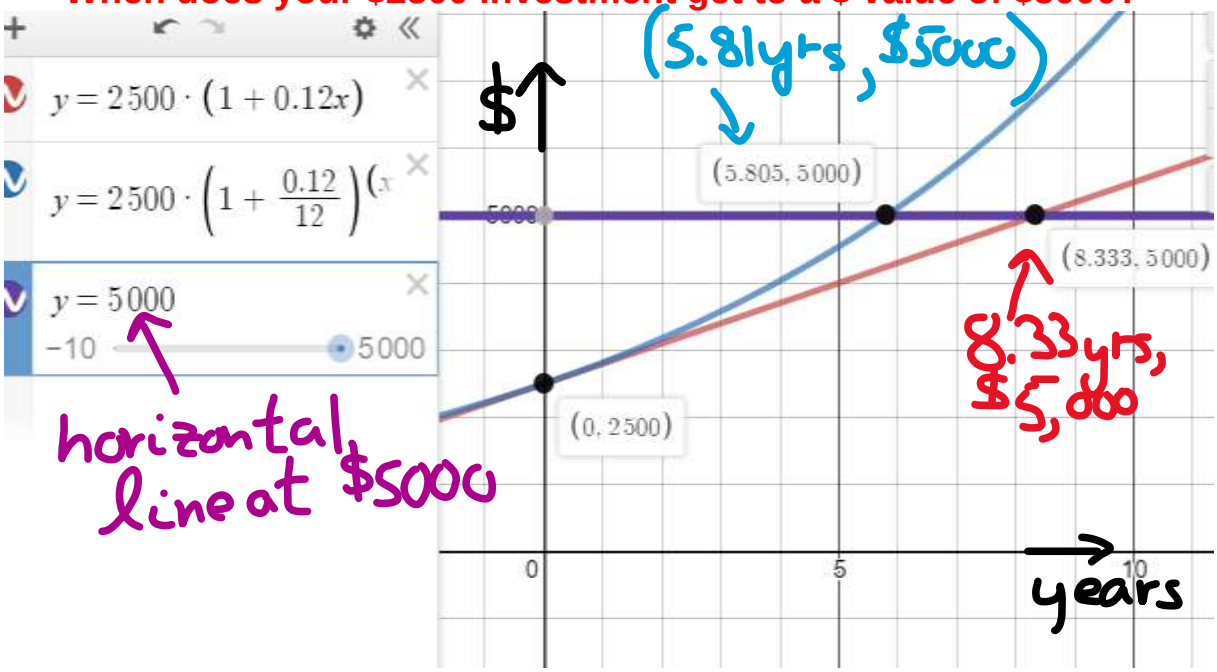


What is the investment worth after 10 years? (the FV or the 'A')



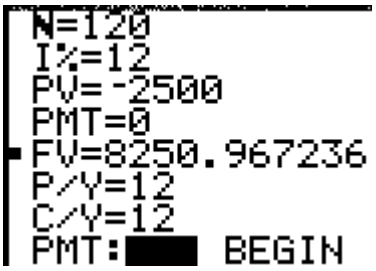
MrF

When does your $2500 investment get to a $ value of $5000?



Go ahead!
Check with an App! You know you wanna!

What is it worth after 10 years.



How many years till it grows to $5000 ?

↑

Does that say 69.66 years???
WTH? Makes no sense?

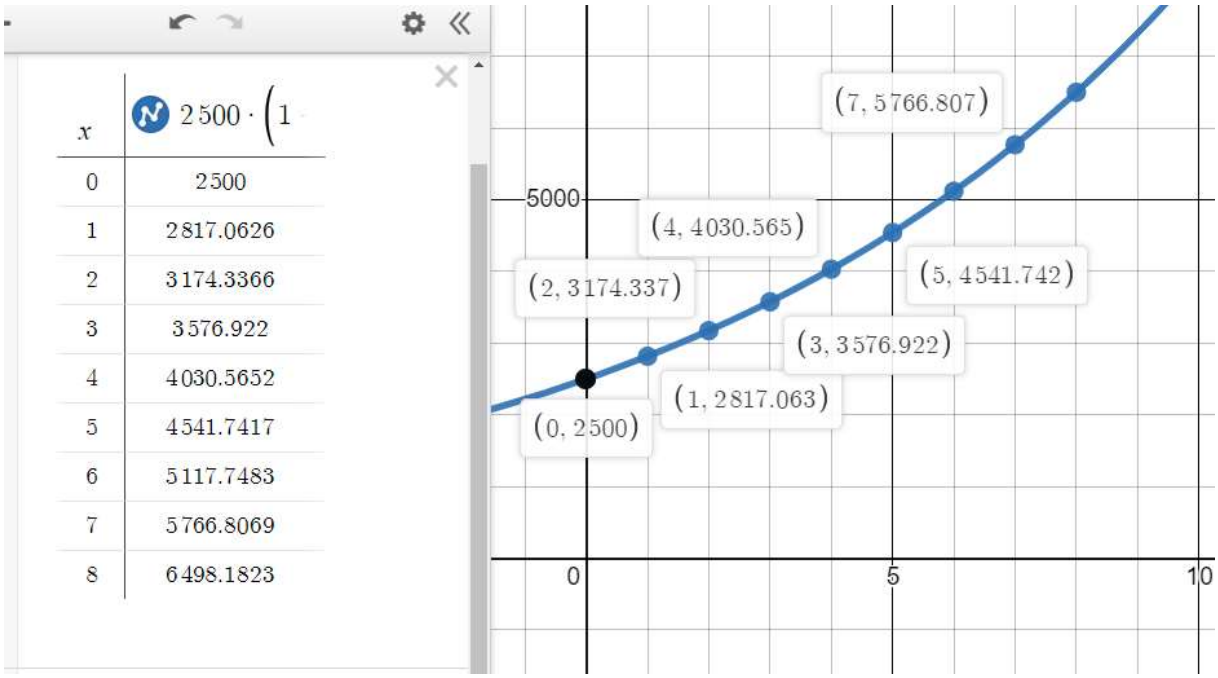
No! Read it!
It says 69.66 **Periods**
Which is **5.81 years!**

MrF

How would you like a printout of every year's PV

Yes, it is a computer, of course it can do that!

You will figure it out!



x	$2500 \cdot (1$
0	2500
1	2817.0626
2	3174.3366
3	3576.922
4	4030.5652
5	4541.7417
6	5117.7483
7	5766.8069
8	6498.1823