

Applied Finite Mathematics 3rd edition 2016 Sekhon & Bloom

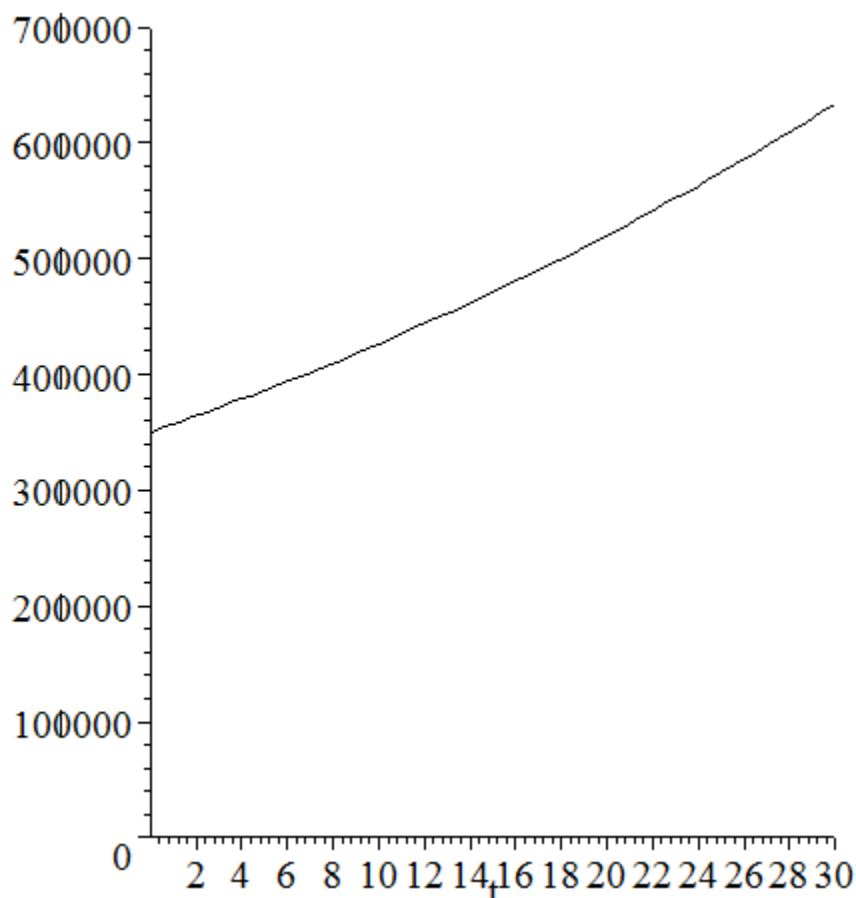
Answers to Odd Numbered Homework Problems Section 5.2

5.2#1: $y=ab^t=350000(1.02)^t$ where t is number of years since 2010

y intercept is the point $(0, 350000)$

Note that the growth rate is very small, only 2%, so the curve is not strongly curved.

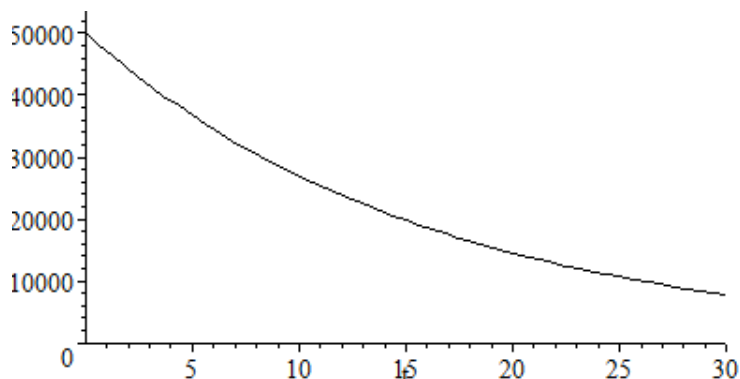
If you examine the curve carefully, you see that it does curve upward, increasing more quickly as x gets larger, even though it is not as pronounced as we have seen in other graphs with larger growth rates.



5.2#3:

$$y=ab^t=50000(0.94)^t$$

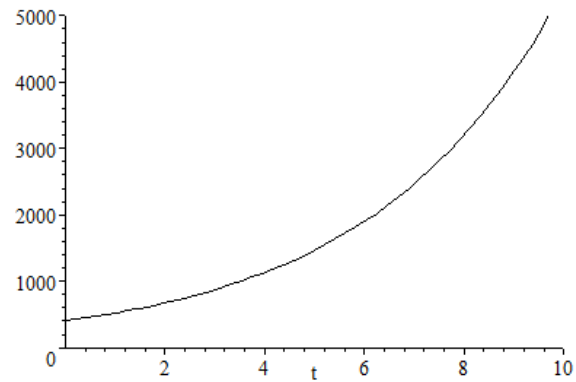
y intercept is the point $(0, 50000)$



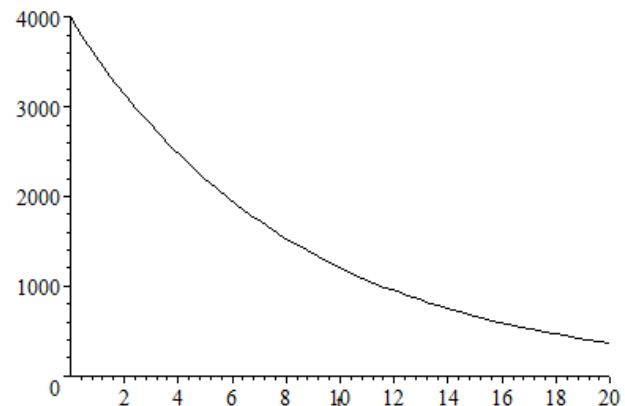
5.2 #5:

$$y = ae^{kt} = 400e^{0.26t}$$

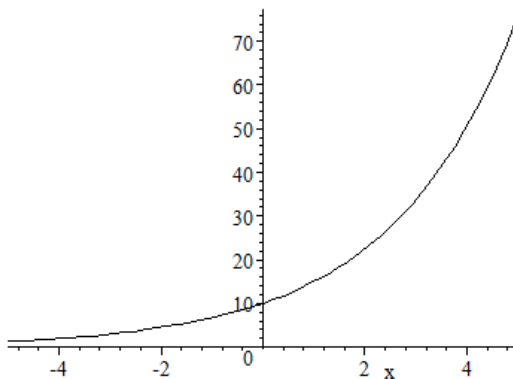
y intercept is (0, 400)



5.2 #7: $y = ae^{kt} = 400e^{-0.12t}$
y intercept is (0, 4000)



5.2 #9: $y = 10(1.5^x)$



b. y intercept is (0, 10)

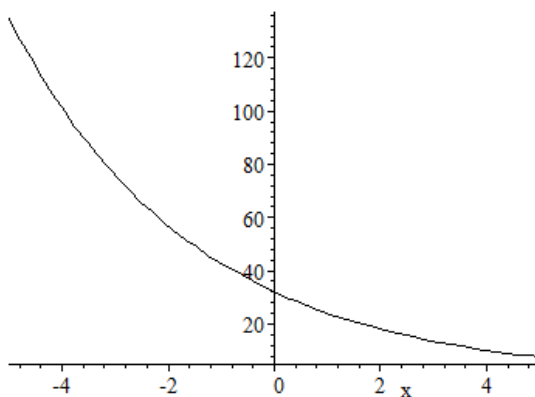
c. Horizontal asymptote is the x axis
which is the line $y = 0$.

The function approaches the asymptote as $x \rightarrow -\infty$

d. Domain – all real numbers

Range – all positive real numbers

5.2 #11: $y = 32(0.75^x)$



b. y intercept is (0, 32)

c. Horizontal asymptote is the x axis
which is the line $y = 0$.

The function approaches the asymptote as $x \rightarrow \infty$

d. Domain – all real numbers

Range – all positive real numbers