

P341
#84

Week of Release	Box office Revenue (\$ millions)
1 st	40
2 nd	26
3 rd	16.9
4 th	10.985
5 th	7.14025
6 th	4.6411625
7 th	3.016755625
8 th	1.960891156
9 th	1.274579252
10 th	0.8284765135

(a) The box office revenue during the third week of release was about \$16.9 million.

(b) If the trend continues, then the revenue during the 10th week of release would be about \$828,476.

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Years from now	Weight of Each Tree (kg)
0	500
1	550
2	605
3	666
4	732
5	805
6	886
7	974
8	1072
9	1179
10	1297

If the current trend continues, then the weight of the entire stand in 10 years will be about 129,760 kg.

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$W(t)$ = the total weight of the catfish t years from now. (pounds)

$$W(t) = 200(1.1)^t$$

Now $W(2) = 200(1.1)^2 \approx 1970$

So, in two years the total weight of the catfish in the pond will be about 1970 pounds.

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#61

Let $R(t)$ = "Campus Papers" weekly revenue t weeks after being released (\$ millions)

a) $R(t) = 15(0.55)^t$

$$R(9) \approx 0.06908$$

$$R(10) \approx 0.03799$$

So, in the 10th week, or 9 weeks after the 1st week the movie will take in about \$69,080

b) $R(t) = 15(0.75)^t$

$$R(9) = 15(0.75)^9$$

$$\approx 1.1263$$

In this case in the 10th week the movie will take in about \$1,126,300.

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#62

Let $P(t)$ be the percent of words remaining recognizable t millennia after 700 AD.

$$P(t) = 1.00(1 - 0.20)^t$$

We seek $P(1.3)$ since 700 AD was about 1300 years ago. $P(1.3) \approx 1.00(0.80)^{1.3} \approx 0.75$.

So, about 75% of the words remain recognizable.