Sec 3.1 Exponential Function Part 2 pg 225 #63, 67, 69, 73

#63) $P = \$2500$, $r = 8\% = .08$, $t = 10$ yrs

Compound Interest n times per year

$$A = P\left(1 + \frac{r}{n}\right)^{nt}$$

$$A = 2500\left(1 + \frac{.08}{n}\right)^{10n}$$

Compound Continuously

$$A = Pe^{rt}$$

$$A = 2500e^{.08(10)}$$

n	1	2	4	12	365	Continuous
A	5397.31	5477.81	5520.19	5549.	12380.41	12382.58

#67) $r = .08$, compound continously

$A = Pe^{rt}$, $P = 12{,}000$

$A = 12000e^{.08t}$

t	1	10	20	30	40	50
A	12999.44	26706.49	59436.39	132278.12	294,390.36	655,177.84

#69) $r = .065$, $P = 12000$

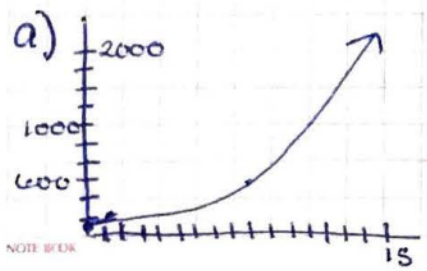
$A = Pe^{rt}$

$A = 12000e^{.065t}$

t	1	10	20	30	40	50
1	12803.66	22946.21	43877.36	83901.58	160435.23	306,781.64

#73) $P(t) = 100e^{.2197t}$

a)



b) used Calc

$P(0) = 100$

$P(5) \approx 299.97 \approx 300$

$P(10) \approx 899.80 \approx 900$

c)

$P(0) = 100e^{.2197(0)} = 100$

$P(5) = 100e^{.2197(5)} \approx 299.97 \approx 300$

$P(10) = 100e^{.2197(10)} = 899.8 \approx 900$