

Name:

Section 1.7 solutions

Math 151, Applied Calculus, Spring 2019

Section 1.7-3,5,16,17,41,44,45,50

- 3 Initial deposit is \$20 in both cases and the continuous compounding earns more interest than annual.
- 5 (a) \$1126.49 (b) \$1127.50
16. (a) \$5068.93 (b) \$4878.84
17. (a) Use the exponential function of the form $S(t) = S_0 b^t$, to get $S(t) = 219(1.05946)^t$. (b) 5.946%
41. \$12,712.49
44. \$14,522.98
45. (a) Compute the future values for each option. For *choice 1* you should get \$4650 and *choice 2* is \$4525 so *choice 1* is preferable. (b) Interest rates above 25%. To get this set up an equation so find the rate that is needed for *choice 2* to equal *choice 1*: this is

$$1500 + 3000(1 + r) = 1900 + 2500(1 + r)$$

now solve for r .

- 48 Accept the installment option, that is worth \$3092.29 after the completion of the installments.
- 50 Find the present value for each year. e.g. since the cash flow is treated as a lump sum, the present value of the first year is $\$50000/(1.075)$ and for the second year $\$40000/(1.075)^2$ and so on. The total cash flow should be \$116,224.95 so they should buy the machine.