BECA / IB Math 5 Exponential functions 2 March 2022

Name:

## 5.6 Exit Note: Compound Interest

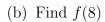
I can calculate compound interest

CCSS.HSF.LE.A.2

$$FV = PV \times \left(1 + \frac{r}{100k}\right)^{kn}$$
 where FV is the future value,

PV is the present value, n is the number of years, k is the number of compounding periods per year, r% is the nominal annual rate of interest

- 1. Do Now: Louis invests \$8,500 in an account with an annual interest rate of 4.15%. What is the balance after 4 years?
- 2. A three year loan for \$17,500 compounds monthly with an annual interest rate of 7.25%.
  - (a) How many compounding periods are there per year? k =
  - (b) Find the final balance of principal and interest after three years.
- 3. The graph shows the exponential function  $f(x) = 1200 \times (1 + 0.18)^t$  representing 18% annual growth rate over t years.
  - (a) Write down the initial value of the function.



(c) Find t such that y = 2000

