

**Math 099 - Quiz 8**

April 16, 2019

Name key

Score \_\_\_\_\_

Show all work to receive full credit. Supply explanations when necessary.

1. (3 points) Elena has an opportunity to invest \$1500 for 3 years at 13.5% simple interest. How much money will she have after the 3 years?

$$I = (1500)(0.135)(3) = \$607.50$$

$$A = 1500 + 607.50 = \$2107.50$$

2. (4 points) Steve is saving for a long-term expense by depositing \$50 at the end of each month into an account earning 6.55% compounded monthly.

- (a) How much is the account worth after 15 years?

$$A = \frac{50 * \left( \left( 1 + \frac{0.0655}{12} \right)^{(12 * 15)} - 1 \right)}{\left( \frac{0.0655}{12} \right)} = \$15,242.74$$

- (b) How much of the account value is from interest?

$$\begin{aligned} I &= 15242.74 - (50)(12)(15) \\ &= 15242.74 - 9000 = \$6242.74 \end{aligned}$$

3. (3 points) Mary Jane makes a one-time deposit of \$27,000 into an account earning 3.75% compounded quarterly. How much is in the account after 5 years?

$$\begin{aligned} A &= 27000 * \left( 1 + \frac{0.0375}{4} \right)^{(4 * 5)} \\ &= \$32,539.78 \end{aligned}$$