

(15pts) NAME (printed neatly): \_\_\_\_\_

(5pts) Section Number (circle correct section): 521<sub>(9:10am)</sub> 522<sub>(10:20am)</sub> 514<sub>(11:30am)</sub> 525<sub>(1:50pm)</sub>

1. (16pts) If you invest \$5200 in an account paying 3.52% per year compounded quarterly, how much would you have in the account after 6 years?

$$N = 4 * 6$$

$$I\% = 3.52$$

$$PV = -5200$$

$$PMT = 0$$

$$FV = \text{solve} \quad \rightarrow \$6416.90$$

$$P/Y = C/Y = 4$$

(16pts) What is your APY, to 5 decimal places, on this investment?

$$\text{Eff}(3.52, 4)$$

$$\text{APY} = 3.56674\%$$

2. (16pts) If you invest \$24456.94 in an account earning 3.45% interest per year compounded continuously, how much money would you have after 30 months?

$$A = Pe^{rt} = 24456.94e^{(0.0345)(2.5)} = \$26659.99$$

3. (16pts) In five years you want to have saved \$20000 so you can have a down payment on a house. How much should your monthly deposit be if your account earns 6.92% per year compounded monthly?

$$N = 12 * 5$$

$$I\% = 6.92$$

$$PV = 0$$

$$PMT = \text{solve} \quad \rightarrow \$279.94$$

$$FV = 20000$$

$$P/Y = C/Y = 12$$

4. (16pts) If you lend Nick \$1200 for 15 months at a 4% simple interest rate per year, how much is due to you at the end of 15 months?

$$A = P(1 + rt) = 1200(1 + (0.04)(1.25)) = \$1260$$