

(20 pts) NAME (printed neatly): _____

Quiz Grade: _____

1. (20 pts) How much money should you deposit in a bank account paying 3.5% interest per year compounded quarterly so that at the end of five years you will have \$4000?

$$N = 4 * 5 \text{ (or } N = 20) \quad I\% = 3.5 \quad PV = \text{solve} \quad PMT = 0 \quad FV = 4000$$

$$P/Y = C/Y = 4 \quad PMT = \text{END}$$

$$PV = -3360.384994$$

You should deposit **\$3360.38** in your account.

2. Sixteen years ago the Spring Fairy bought a \$320,000 fairy nest with a 20% down payment and by financing the balance. The 30-year mortgage had a 4.68% per year interest rate compounded monthly.

a. (20 pts) What is the Spring Fairy's monthly mortgage payment?

$$N = 12 * 30 \text{ (or } N = 360) \quad I\% = 4.68 \quad PV = 0.8 * 320000 \text{ (or } PV = 256000)$$

$$PMT = \text{solve} \quad FV = 0 \quad P/Y = C/Y = 12 \quad PMT = \text{END}$$

$$PMT = -1324.637143$$

The Spring Fairy's monthly payment is **\$1324.64**.

b. (20 pts) At the end of 30 years, how much total interest would she pay?

$$1324.64 * 12 * 30 - 0.8 * 320000 = \mathbf{\$220,870.40}$$
 in interest

3. (20 pts) If you lend a friend \$1200 for 28 months at 5% simple interest rate per year, how much does your friend owe you at the end of the 28 months?

$$A = P(1 + rt) = 1200 \left[1 + (0.05) \left(\frac{28}{12} \right) \right] = \mathbf{\$1340}$$