

**Math 112 - Quiz 7**

April 5, 2017

Name key

Score \_\_\_\_\_

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

1. (6 points) A house sells for \$160,000 and a 10% down payment is made. A mortgage is secured at 3.75% for 30 years.

(a) What amount is financed?

$$.10\% \text{ of } 160000 = 16000$$

$$\text{FINANCED AMOUNT} = 160000 - 16000 = \$144,000$$

(b) What is the monthly payment?

$$R = \frac{144000 \left( \frac{0.0375}{12} \right)}{\left( 1 - \left( 1 + \frac{0.0375}{12} \right)^{-360} \right)} = \$666.89$$

(c) When the loan is paid off in 30 years, what will be the total interest paid?

$$360 (666.89) - 144000 = \$96,080.40$$

2. (4 points) Brenda has been offered a loan at 5.85% compounded monthly which requires monthly payments of \$465.75 for 5 years. What is the loan amount? When the loan is paid off, how much interest will Brenda have paid?

$$P = \frac{465.75 \left( 1 - \left( 1 + \frac{0.0585}{12} \right)^{-60} \right)}{\left( \frac{0.0585}{12} \right)} = \$24,178.31$$

$$\text{INTEREST PAID} = (465.75)(60) - 24178.31 = \$3766.69$$