

## Math 107 Quiz #4 Answers

1. (a) Note:  $Y = 5$

$$\text{Loan Amount} = P = 400 \left[ \frac{1 - \left(1 + \frac{0.045}{12}\right)^{-12(5)}}{\frac{0.045}{12}} \right] = \boxed{\$21,455.75}$$

- (b)  No, it is not sufficient for a \$25,000 car.

$$\text{You would need a down payment of } \$25,000 - \$21,455.75 = \boxed{\$3,544.25}$$

2. (a) Gross Income =  $64,000 + 1,300 = \boxed{\$65,300}$

$$\text{Adjusted Gross Income} = 65,300 - 5,000 = \boxed{\$60,300}$$

- (b) Taxable Income =  $60,300 - 3,650 - 5,700 = \boxed{\$50,950}$

3. In 2006, a poll was conducted to see what percentage of Seattle residents wanted a new viaduct, a new tunnel, neither, or were undecided about it. For the poll, 400 registered voters were randomly selected.

- (a) Population:

Sample:

Population Parameters:

Sample Statistics:

- (b) Confidence Interval:

4. This is  because there is an established system used to determine which soda is sampled.