

NAME: _____

Math 103L: Exercise on Linear Equations (Section 1.1)

These problems are a sample of the kinds of problems that may appear on the final exam. Some answers are included to indicate what is expected. Problems that require a summary statement are marked with Sum. The summary statements should be written in complete sentences and they should include the units of measurement for all quantities mentioned in the summary.

1. RoBoCo Costume Inc. plans to launch a major campaign to sell Robby the Robot costumes for Halloween. The price-demand equation for Robby costumes is

$$d = 120 - p.$$

The demand d is the number of Robby costumes (in thousands) that can be sold at a price of p dollars.

- (a) Sum How many costumes can be sold at a price of \$80.00?
- (b) Sum What price should be charged if the demand is 100,000 Robby costumes?
- (c) Sum If the price increases by \$1.00, by how much does the demand decrease?

2. (Matched problem 8 Section1.1) Mary paid 8.5% sales tax and a \$190 title and license fee when she bought a new car for a total of \$28,400. What is the purchase price of the car?

3. (Matched problem 9 Section1.1) How many CDs would a recording company have to make and sell to break even if the fixed costs are \$18,000, variable costs are \$5.20 per CD and the CDs are sold to retailers for \$7.60 each?