

SECTION 4.4: WRITING LINEAR EQUATIONS FROM SCENARIOS

Learning Target: _____

Homework: _____

Linear equation: An equation with _____ variables.

When writing linear equations from scenarios or application problems, there are several key things to look for. First, look for the words _____ or _____, which tell you to _____.

Another thing to look for is a _____ cost or _____ value.

EXAMPLES: Write a linear equation for each scenario.

1. Cars-R-Us is running a special on renting convertibles for the holiday weekend, \$50 for the weekend plus 3 cents per mile. Write an equation that expresses the total cost, T , for renting the convertible for 1 weekend and driving m miles.
2. To mail a letter in 2003, it cost \$0.37 for the first ounce and \$.23 for each additional ounce. Write a linear function for the cost for mailing a letter weighing n ounces.
3. A long distance phone company charges \$5 per month plus 10 cents per minute. Write a linear function to represent total monthly cost $C(x)$ as a function of the number of x minutes.

4. A hot air balloon is 10 meters above the ground and rising at a rate of 15 meters per minute. Write a linear equation for the height of the balloon, h , after t minutes.

5. The cost of 6 apples and 5 bananas cost \$2.37. Write a linear equation that represents the total cost of the fruit.

6. At a local amusement park, 10 adults and 7 children paid \$213.00 for admission. Write a linear equation that represents the total cost for the tickets purchased.

7. The fare charged by a taxi driver is \$3 fixed charge plus 35 cents per mile.
 - a. Write a linear function to represent this situation.

 - b. How much will 15 miles cost?

 - c. How much will 38 miles cost?

 - d. If a total charge is \$10, how many miles did the passenger go?

 - e. If a total charge is \$12.45, how many miles did the passenger go?

Summary: _____