Lesson 20   Applications of Linear Systems

System Models: Substitution Method   Set both equations up in Slope – Intercept Form

$$y = mx + b \qquad \text{Cost(x)} = mx + b$$
$$y = mx + b \qquad \text{Revenue(x)} = mx$$

When the Revenue (Income) and the Cost are the same, you break even!

Examples: Set up the system of equations and solve the system.

1. Suppose a model airplane club publishes a newsletter. Expanses are $0.90 for printing and mailing each copy, plus $600 total for research and writing. The price of the newsletter is $1.50 per copy. How many copies of the newsletter must the club sell to break even?

2. Suppose an antique car club publishes a newsletter. Expenses are $0.35 for printing and mailing each copy, plus $770 total for research and writing. The price of the newsletter is $0.55 per copy. How many copies of the newsletter must the club sell to break even?