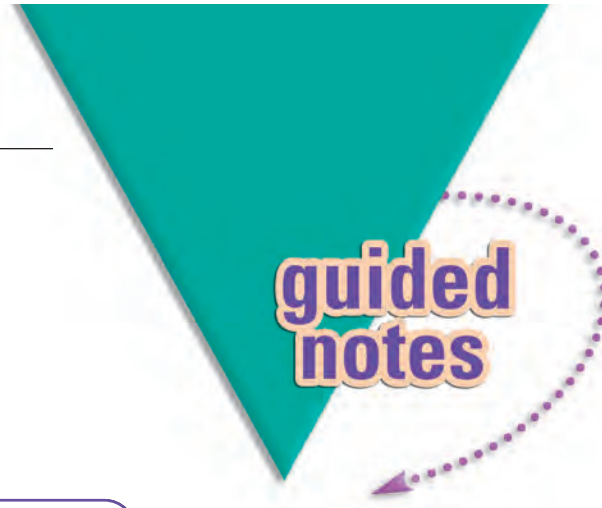**DIGITAL**

NAME

Module 4   Solving Problems Using Linear
              Equations of One Variable
Lesson 4   Solving Mixture and Rate Problems
              Using Equations of One Variable

Lesson Objective

- Write and solve equations of one variable to solve mixture and
  rate problems.

1 Rick has $3.85 cents in nickels and dimes. The number of nickels is 3 less than

twice the number of dimes. How many of each type of coin does Rick have?

Rick has 37 nickels and 20 dimes.

2 Dr. Gonzales needs a 40% acid solution. She has 50 mL of a 50% acid solution.

How much of a 25% acid solution should she add to the 50% solution to make

a 40% solution?   **Dr. Gonzales needs to add $33\frac{1}{3}$ mL of the**

25% acid solution to obtain a 40% acid solution.

When solving a distance problem, **drawing a picture**

before you write your equation can help you visualize what is happening.

Distance equals **rate** times **time** .

3 Josh raced his brother Joel to determine who would do the dishes this week.

Joel biked at a constant rate of 704 ft/min. Josh gave Joel a 3 minute head

start, and then biked at a constant rate of 880 ft/min. How many minutes after

Joel started biking did Josh catch up with Joel? **Josh caught up with Joel**

15 minutes after Joel started biking.