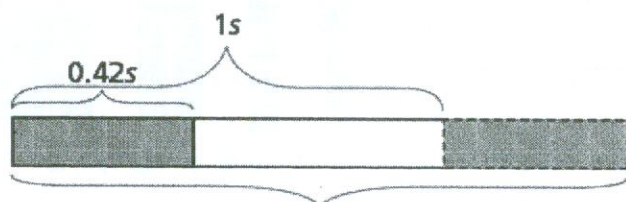Name_____ Class_____ Date_____

3-2

Rewriting Expressions

Essential question: *How can you rewrite expressions to help you solve problems?*

A percent increase is also known as a markup and a percent decrease is also known as a discount, or markdown.

1 EXPLORE Calculating Markups

To make a profit, a store manager must mark up the prices on the items he sells. A sports store buys skateboards from a supplier for *s* dollars. The store's manager decides to mark up the price for retail sale by 42%.

A The markup is __42__% of the price, *s*.

B Find the amount of the markup. Use a bar model.

$1s + 0.42s$

The white bar represents the cost of the skateboard, __1s__.

The grey section is __42__% of __1s__. This can be written as a decimal, __0.42__

C Add __1s 0.42s__ to the cost of the skateboard to find the retail price.

Retail price = __1s__ + __0.42s__

      Original cost   Markup

D You can combine like terms in the expression and write the retail price as a single term.

Retail price = __1.42s__

$S = 100$

$100(1.42) = \$142$

REFLECT

1a. What are the benefits of writing the price as the sum of two terms? What are the benefits of writing the price as one term?

IT SHOWS US THE ORIGINAL PRICE AND MARK-UP

ONE TERM ALLOWS US TO GET THE SALE PRICE

1b. What If? The markup is changed to 34%; how does the expression for the retail price change?

IT CHANGES THE PRICE TO A LOWER VALUE