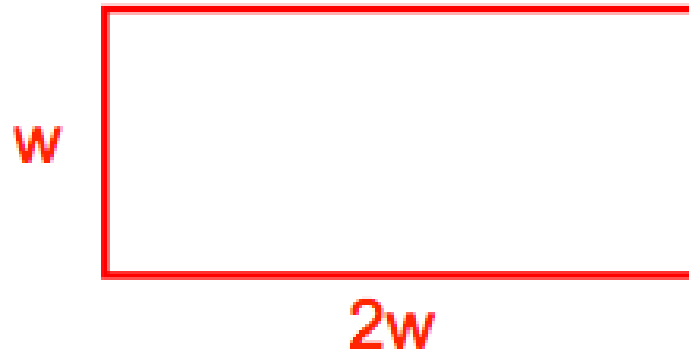


Solving Multi-Step Equations Notes - Day 2

Key Algebra Concept: defining an unknown (variable) in terms of another unknown variable.

Example: the length of a rectangle is twice its width.

In this situation, the width is an unknown (w) and the length is given in terms of the width ($2w$)



Example 1: A person has quarters, dimes, and nickels with a total value of 500 cents (\$5.00). The number of nickels is twice the number of quarters. The number of dimes is four less than the number of quarters. Write and solve an equation to find the number of each coin.

$$q = \text{quarters}$$

$$\text{dimes} \quad q - 4$$

$$\text{nickels} \quad 2q$$

must define the dimes and nickels in terms of "q"

must write the equation in terms of the value of the coins and not the number of coins

see work on the next slide

$$25q + 10(q-4) + 5(2q) = 500$$

$$25q + 10q + -40 + 10q = 500$$

$$45q + -40 = 500$$

12 quarters

8 dimes

24 nickels

$$45q = 540$$

$$q = 12$$