Unit 2 Lesson 1: Planning a Pizza Party

1 A Main Dish and Some Side Dishes (Warm up)

Student Task Statement

Here are some letters and what they represent. All costs are in dollars.

- m represents the cost of a main dish.

- n represents the number of side dishes.

- s represents the cost of a side dish.

- t represents the total cost of a meal.

1. Discuss with a partner: What does each equation mean in this situation?
   a. $m = 7.50$

   b. $m = s + 4.50$

   c. $ns = 6$

   d. $m + ns = t$

2. Write a new equation that could be true in this situation.

2 How Much Will It Cost?

Student Task Statement

Imagine your class is having a pizza party.

Work with your group to plan what to order and to estimate what the party would cost.

1. Record your group's plan and cost estimate. What would it take to convince the class to go with your group's plan? Be prepared to explain your reasoning.

2. Write down one or more expressions that show how your group's cost estimate was calculated.

3. a. In your expression(s), are there quantities that might change on the day of the party? Which ones?

    b. Rewrite your expression(s), replacing the quantities that might change with letters. Be sure to specify what the letters represent.

3 What are the Constraints?

Student Task Statement

A **constraint** is something that limits what is possible or reasonable in a situation.

For example, one constraint in a pizza party might be the number of slices of pizza each person could have, s. We can write $s < 4$ to say that each person gets fewer than 4 slices.

1. Look at the expressions you wrote when planning the pizza party earlier.
   a. Choose an expression that uses one or more letters.

   b. For each letter, determine what values would be reasonable. (For instance, could the value be a non-whole number? A number greater than 50? A negative number? Exactly 2?)

2. Write equations or inequalities that represent some constraints in your pizza party plan. If a quantity must be an exact value, use the $=$ symbol. If it must be greater or less than a certain value to be reasonable, use the $<$ or $>$ symbol.