Unit 3, Lesson 7

Spreadsheet Computations

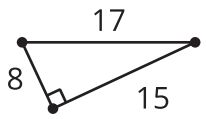
Let's use spreadsheets as calculators.

7.1 Dust Off Those Cobwebs

1. A person walks 4 miles per hour for 2.5 hours. How far does the person walk?

2. A rectangle has an area of 24 square centimeters. What could be its length and width?

3. What is the area of this triangle?



7.2 A Spreadsheet Is a Calculator

Use a spreadsheet to compute each of the following. Type each computation in a new cell, instead of erasing a previous computation.

- $2 + 7$
- $2 - 7$
- $7 \cdot 2$
- 7^2
- $7 \div 2$
- $\frac{1}{7}$ of 91
- $0.1 \cdot 2 + 3$
- $0.1(2 + 3)$
- $13 \div \frac{1}{7}$
- The average of 2, 7, 8, and 11

7.3 Use the Contents of a Cell in a Calculation

1. Type any number in cell A1, and another number in cell A2. Then in cell A3, type =A1+A2. What happens?

2. In cell A4, compute the product of the numbers in A1 and A2.
3. In cell A5, compute the number in A1 raised to the power of the number in A2.
4. Now, type a new number in cell A1. What happens?

5. Type a new number in cell A2. What happens?

6. Use nearby cells to label the contents of each cell. For example, in cell B3, type "the sum of A1 and A2." (This is a good habit to get into. It will remind you and anyone else using the spreadsheet what each cell means.)

7.4 Solve Some Problems

For each problem:

- Estimate the answer before calculating anything.
- Use the spreadsheet to calculate the answer.
- Write down the answer and the formula that you used in the spreadsheet to calculate it.

1. The speed limit on a highway is 110 kilometers per hour. How much time does it take a car to travel 132 kilometers at this speed?

2. In a right triangle, the lengths of the sides that make a right angle are 98.7 cm and 24.6 cm. What is the area of the triangle?

3. A recipe for fruit punch uses 2 cups of seltzer water, $\frac{1}{4}$ cup of pineapple juice, and $\frac{2}{3}$ cup of cranberry juice. How many cups of fruit punch are in 5 batches of this recipe?

4. Check in with a partner, and resolve any discrepancies with your answer to the last question. Next, type 2, $\frac{1}{4}$, $\frac{2}{3}$, and 5 in separate cells. (You may find it helpful to label cells next to them with the meaning of each number.) In a blank cell, type a formula for the total amount of fruit punch that uses the values in the other four cells. Now you should be able to easily figure out:
   a. How much in 7.25 batches?
   b. How much in 5 batches if you change the recipe to 1.5 cups of seltzer water per batch?
   c. Change the ratio of the ingredients in the fruit punch so that you would like the flavor. How many total cups are in $\frac{1}{2}$ batch?

Lesson 7 Summary

A spreadsheet can be thought of as a type of calculator. For example, in a cell, you could type $= 2 + 3$, and then the sum of 5 is displayed in the cell. You can also perform operations on the values in other cells. For example, if you type a number in A1 and a number in A2, and then in A3 type $= A1 + A2$, cell A3 will display the sum of the values in cells A1 and A2.

Familiarize yourself with how your spreadsheet software works on your device.

- On some spreadsheet programs, an = symbol must be typed before the expression in the cell. (On others, it does not matter if your expression begins with =.)
- Know how to "submit" the expression so the computation takes place. If your device has a keyboard, it's likely the Enter key. On a touchscreen device, you may have to tap a check mark.
- Learn symbols to use for various operations, and how to find them on your keyboard. Here are the symbols used for some typical operations:
  - + for add
  - - for subtract or for a negative number (this symbol does double duty in most spreadsheets)
  - * for multiply
  - / for divide
  - a / b for the fraction $\frac{a}{b}$
  - ^ for an exponent
  - . for a decimal point
  - ( ) to tell it what to compute first (often needed around fractions)