

# Overview of Today's Class

- Review multiples and factors
- Wrap up the Candy Box Problem
- Comparing fractions
- Analyzing student errors
- Begin work on the Bagel Problem
- Wrap up & Assignments

# Definitions of Multiples, Factors

- A **multiple** of a number is an integer times that number
  - Example: multiples of 7 are of the form  $7k$ , where  $k$  is an integer
- A **factor** of a whole number is a whole number that when multiplied by a whole number equals the original number
  - Example: 3 is a factor of 36 because  $3 \times 12$  equals 36

# Candy Box Problem

There was a box of candy on the table. Alyson was hungry because she hadn't had breakfast, so she ate half the candy. Then Rob came along and noticed the candy. He thought it looked good, and had not packed a lunch, so he took two-thirds of what was left in the box. Jessica came by and decided to take three-fourths of the remaining candies with her to her next class. Then Lani came dashing up and took one piece of candy to munch on. When Lee looked at the candy box, he saw that there was just one piece of candy left. "How many pieces of candy were there in the box to begin with?" he asked Alyson suspiciously.

# Using the Candy Box Problem

- Establish importance of unit in interpreting fractions
- Gain experience with using different representational tools to solve problems (some of these representations are useful in other subjects, too)
- Develop skills with building correspondences across representations
- Develop criteria for mathematical explanation
- Develop skill in clarifying mathematical talk, make clear to others what we mean (being attentive to potential discrepancies)
- Match solutions to the original problem

**Which fraction is larger?**

$$\frac{16}{32} \qquad \frac{13}{18}$$

# Which fraction is larger?

a)  $\frac{1}{8}$     $\frac{1}{13}$

b)  $\frac{5}{6}$     $\frac{3}{4}$

c)  $\frac{19}{20}$     $\frac{18}{17}$

d)  $\frac{4}{9}$     $\frac{3}{5}$

e)  $\frac{2}{5}$     $\frac{3}{7}$

# The Bagel Problem

Karla has 3 dozen bagels that she wants to share equally among 5 people. How many dozen or how much of a dozen can she give to each person?

# Wrap-up & Assignments

- Individual assignment due Monday
  - Finish work on Bagel problem
- Reminders:
  - Midterm revisions due by Friday at 5pm --- turn in your exam with your revisions
  - Partner assignment due by Friday at 5pm
  - Turn in your notebook sometime this week.
    - If you turn in your notebook today, we will return your notebook by 12pm Thursday
    - If you turn in your notebook tomorrow or later, we will return your notebook in class on Monday