Unit 3, Lesson 11

Subtract Fractions Flexibly

Let's find all kinds of differences.

Warm-up

Which Three Go Together: Fractional Values

Which 3 go together?

A. $2 - \frac{3}{5}$

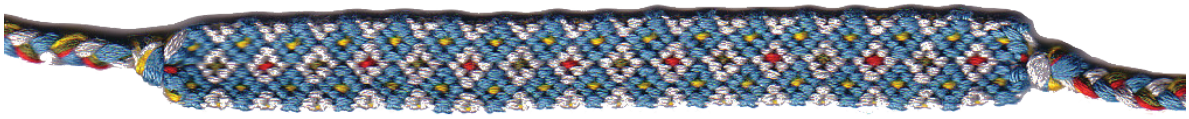
B. $\frac{10}{5} - \frac{3}{5}$

C. $1\frac{3}{5} - \frac{1}{5}$

D. $\frac{10}{5} - 1$

Activity 1

Friendship Bracelets



Clare, Elena, and Andre make *macramé* (MAA-kruh-may) friendship bracelets. They'd like their bracelets to be $9\frac{4}{8}$ inches long. For each question, explain or show your reasoning.

1. Clare starts her bracelet first and has only $\frac{7}{8}$ inch left until she finishes it. How long is her bracelet so far?

2. So far, Elena's bracelet is $5\frac{1}{8}$ inches long and Andre's is $3\frac{5}{8}$ inches long. How many more inches do they each need to reach $9\frac{4}{8}$ inches?

3. How much longer is Elena's bracelet than Andre's bracelet?

Activity 2

Multiple Ways to Subtract

Here are 4 expressions that you may have written about the friendship bracelets.

$9\frac{4}{8} - \frac{7}{8}$ $\quad$ $9\frac{4}{8} - 5\frac{1}{8}$ $\quad$ $9\frac{4}{8} - 3\frac{5}{8}$ $\quad$ $5\frac{1}{8} - 3\frac{5}{8}$

1. Here is one way to find the value of the first expression. Look closely at the calculation. Talk to your partner about why $9\frac{4}{8}$ is written as different sums.

$9\frac{4}{8} - \frac{7}{8}$	
first number	second number
$9\frac{4}{8}$ $8 + 1 + \frac{4}{8}$ $8 + \frac{8}{8} + \frac{4}{8}$ $8 + \frac{12}{8}$	$\frac{7}{8}$
$8 + \frac{12}{8} - \frac{7}{8}$ $8 + \frac{5}{8}$ $8\frac{5}{8}$	

2. Here are some unfinished calculations. Complete them to find the value of each difference.

a

$9\frac{4}{8} - 5\frac{1}{8}$	
first number	second number
$9\frac{4}{8}$	$5\frac{1}{8}$
$9 + \frac{4}{8}$	$5 + \frac{1}{8}$

b

$9\frac{4}{8} - 3\frac{5}{8}$	
first number	second number
$9\frac{4}{8}$	$3\frac{5}{8}$
$8 + 1 + \frac{4}{8}$	$3 + \frac{5}{8}$
$8 + \frac{8}{8} + \frac{4}{8}$	
$8 + \frac{12}{8}$	

c

$5\frac{1}{8} - 3\frac{5}{8}$	
first number	second number
$5\frac{1}{8}$	$3\frac{5}{8}$
$5 + \frac{1}{8}$	$3 + \frac{5}{8}$