## Lesson 1: Add, Subtract, and Multiply Fractions

* Let’s practice solving problems involving fractions.

### Warm-up: Number Talk: Fluency and Fractions

Find the value of each expression mentally.

* $5×\frac{10}{5}$
* $9×\frac{6}{3}$
* $8×\frac{11}{4}$
* $6×\frac{12}{10}$

### 1.1: Let’s Make Head Wraps!



Jada and Lin saw a picture of head wraps made of African wax print fabric and would like to make their own.

1. Jada stitches together 5 pieces of fabric that each have a length of $\frac{2}{6}$ yard. Write an equation to show the total length of fabric Jada used.
2. Lin stitches together 3 pieces of fabric that are each $\frac{2}{3}$ yard long. Write an equation to show the total length of fabric Lin used.
3. Who used more fabric? Explain or show your reasoning.

### 1.2: Make 2 Yards of Fabric

Jada and Lin’s moms taught the fourth-grade class how to combine and use fabric pieces for head wraps. The lengths of each piece of fabric are listed here.

$\frac{2}{6}$ yard $\frac{2}{6}$ yard $\frac{2}{6}$ yard

$\frac{11}{10}$ yard

$1\frac{2}{5}$ yards $\frac{9}{10}$ yard $\frac{2}{6}$ yard

$\frac{6}{12}$ yard

$\frac{3}{6}$ yard $\frac{2}{6}$ yard $\frac{2}{6}$ yard

$\frac{12}{12}$ yard

$\frac{2}{6}$ yard $\frac{3}{5}$ yard

$\frac{2}{6}$ yard

Find as many different combinations of fabric that would have a length of 2 yards as you can. Each piece of fabric can only be used one time. Write an equation for each combination.

### 1.3: Play by the Rules

1. Here are four fractions:
* $\frac{15}{12}$
* $\frac{7}{12}$
* $\frac{21}{12}$
* $\frac{18}{12}$
	1. What is the sum of all the fractions?
	2. Select two fractions with a difference that is less than $\frac{1}{3}$. Show or explain your reasoning.
	3. Select two fractions with a sum greater than 3. Show or explain your reasoning.
1. Here are four new fractions:
* $\frac{5}{12}$
* $\frac{8}{12}$
* $\frac{3}{12}$
* $\frac{2}{12}$
* Use them to make the value 1, following these rules:
	+ Use addition, subtraction, or both.
	+ Use all four fractions.
	+ Use each fraction only one time.
1. Try to make the value of 1 again using the following fractions and the same rules.
* $\frac{15}{10}$
* $\frac{13}{100}$
* $\frac{53}{100}$
* $\frac{9}{10}$



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