

Lesson: Enrichment Adding and Subtracting Fractions and Mixed Numbers

Sixth Grade Objective: 1.04 Develop fluency in addition, subtraction, multiplication and division of nonnegative rational numbers.

- a) Analyze computational strategies
- b) Describe the effect of operations on size
- c) Estimate the results of computations
- d) Judge the reasonableness of solutions

Review.

Try these on your own.

1. $7\frac{3}{4} + 2\frac{1}{2} =$

2. $6\frac{1}{4} - 3\frac{1}{2} =$

3. $\frac{3}{9} + \frac{2}{3} =$

4. Amy has the following yards of fabric: $3\frac{1}{3}$ yd, $4\frac{5}{8}$ yd, $6\frac{3}{7}$ yd, $4\frac{1}{2}$ yd, $11\frac{2}{7}$ yd. **About** how many yards of fabric does she have?

5. Look at problem number four again. What is the actual amount of fabric? Was your estimate close?

Check your answers

5 5

$$1. 7\frac{3}{4} + 2\frac{1}{2} = 7\frac{3}{4} + 2\frac{2}{4} = 9\frac{5}{4} = 4\overline{)5} = 10\frac{1}{4}$$

$$2. 6\frac{1}{4} - 3\frac{1}{2} = \cancel{6}\frac{1}{4} - 3\frac{2}{4} = 2\frac{3}{4}$$

Borrow from the six to make it a five. Add the denominator

$\underline{-4}$ and
the numerator to get the new numerator of five.
Subtract.

1

$$3. \frac{3}{9} + \frac{2}{3} = \frac{3}{9} + \frac{6}{9} = \frac{9}{9} = 1$$

4. Amy has the following yards of fabric: $3\frac{1}{3} \text{ yd}$, $4\frac{5}{8} \text{ yd}$, $6\frac{3}{7} \text{ yd}$, $4\frac{1}{2} \text{ yd}$, $11\frac{2}{7} \text{ yd}$. **About** how many yards of fabric does she have?

$$3\frac{1}{3} \text{ yd} = 3 \text{ yd}$$

$$4\frac{5}{8} \text{ yd} = 5 \text{ yd}$$

About lets you know to round. $6\frac{3}{7} \text{ yd} = 6 \text{ yd}$ = Amy has about 30 yards of fabric.

$$4\frac{1}{2} \text{ yd} = 5 \text{ yd}$$

$$11\frac{2}{7} \text{ yd} = 11 \text{ yd}$$

5. Look at problem number four again. What is the actual amount of fabric? Was your estimate close?

$$3\frac{1}{3} \text{ yd} + 4\frac{5}{8} \text{ yd} + 6\frac{3}{7} \text{ yd} + 4\frac{1}{2} \text{ yd} + 11\frac{2}{7} \text{ yd} =$$

$$3\frac{56}{168} \text{ yd} + 4\frac{105}{168} \text{ yd} + 6\frac{72}{168} \text{ yd} + 4\frac{84}{168} \text{ yd} + 11\frac{48}{168} \text{ yd} = 28\frac{365}{168} = 168\overline{)365} = 30\frac{2}{29} \text{ yd}$$

$$\underline{-336}$$

$$29$$

Amy actually has $30\frac{2}{29}$ yards of fabric. Yes, my estimate was very close.

ACTIVITY 1:

Evaluate the problems to solve the code. Place each letter with the correct answer.
What is a common phrase amongst mathematicians?

A $4 + 2\frac{1}{2} =$

I $7 - 3\frac{2}{3} =$

H $\frac{2}{3} + 1\frac{4}{5} =$

L $\frac{10}{33} - \frac{3}{11} =$

M $2\frac{5}{7} + 3\frac{4}{5} =$

O $\frac{9}{10} + 0.3 =$

T $\frac{5}{8} - \frac{1}{4} =$

V $6\frac{1}{2} - 4\frac{7}{10} =$

E $0.96 + \frac{1}{2} =$

$3\frac{1}{3}$	$\frac{1}{33}$	1.2	1.8	1.46	$6\frac{18}{35}$	$6\frac{1}{2}$	$\frac{3}{8}$	$2\frac{7}{15}$

ACTIVITY 2:

FRACTION FINDERS!

You have been hired as a Fraction Finder. Your job is to locate fractions being used in your world. You have to find a minimum of five examples of fractions being used in your world. When you find a “your world fraction” capture it quickly and glue it on a piece of paper.

Answer the following questions for each fraction you find.

1. What is the fraction?
2. How is the fraction used?
3. Why is the fraction needed?
4. Who uses the fraction?
5. When do you use the fraction?

Make sure your pages are neat and unique. Have fun!

Extra Practice!

<http://www.woodlands-junior.kent.sch.uk/maths/fractions/#Fractions>

Check Your Answers

Activity 1:

Evaluate the problems to solve the code. Place each letter with the correct answer.

What is a common phrase amongst mathematicians?

$$\mathbf{A} \quad 4 + 2\frac{1}{2} = 6\frac{1}{2} \quad \mathbf{I} \quad 7 - 3\frac{2}{3} = 6\frac{3}{3} - 3\frac{2}{3} = 3\frac{1}{3} \quad \mathbf{H} \quad \frac{2}{3} + 1\frac{4}{5} = \frac{10}{15} + 1\frac{12}{15} = 1\frac{22}{15} = 2\frac{7}{15}$$

$$\mathbf{L} \quad \frac{10}{33} - \frac{3}{11} = \frac{10}{33} - \frac{9}{33} = \frac{1}{33} \quad \mathbf{M} \quad 2\frac{5}{7} + 3\frac{4}{5} = 2\frac{25}{35} + 3\frac{28}{35} = 5\frac{53}{35} = 6\frac{18}{35}$$

$$\mathbf{O} \quad \frac{9}{10} + 0.3 = \frac{9}{10} + \frac{3}{10} = \frac{12}{10} = 1\frac{2}{10} = 1\frac{1}{5} = 1.2 \quad \mathbf{T} \quad \frac{5}{8} - \frac{1}{4} = \frac{5}{8} - \frac{2}{8} = \frac{3}{8}$$

$$\mathbf{V} \quad 6\frac{1}{2} - 4\frac{7}{10} = \overset{5 \ 15}{\cancel{6}\frac{5}{2}} - 4\frac{7}{10} = 1\frac{8}{10} = 1\frac{4}{5} = 1.8 \quad \mathbf{E} \quad 0.96 + \frac{1}{2} = 0.96 + 0.5 = 1.46$$

$3\frac{1}{3}$	$\frac{1}{33}$	1.2	1.8	1.46	$6\frac{18}{35}$	$6\frac{1}{2}$	$\frac{3}{8}$	$2\frac{7}{15}$
I	L	O	V	E	M	A	T	H

Activity 2:

Answers will vary.