Grade 7 Mathematics
Week of Nov 23 – Nov 27

Lesson 2.4: Mixed Numbers

Lesson 2.5: Add and Subtract Fractions

Lesson Materials

- Lessons for Section 2.4 Mixed Numbers
- Lessons for Section 2.5 Add and Subtract Fractions
- Fractions Learning Guide (This PDF)

Use the link above to open the lessons for this section. Remember: on the lesson page, use the arrow next to the "Table of Contents" at the **top of the page** to move through the lessons. You can also click on the Table of Contents to open the menu so you can jump to a specific lesson page.

Work through the online lessons. You can work at your own pace or follow the suggested schedule below. Complete the activities in your Learning Guide as you work through the lessons. You can print the Learning Guide, or, copy out the questions on a separate piece of paper. Be sure to try the games and practice quizzes as you make your way through the online lesson book.

Suggested Lesson Schedule

Monday	Wednesday
• 2.4 - Multiplication of Mixed Numbers • Practice #1 • LG 2.4 #1-3 p. 14-15	• 2.5 – Add and Subtract • Common Denominators • Practice #1 • LG 2.5 #1-5, p. 17
Tuesday • Mixed Numbers • Steps • Examples • Practice #2 • Game • LG 2.4 #4-6, p. 15-16	**Thursday** • Unlike Denominators • Practice #2 • Mixed Numbers • Practice #3 • LG 2.5 #6-10, p. 18-19 **Friday** • Pro-D Day

WCLN.ca

2.4 MIXED NUMBERS

1. Follow each step as you fill in the following table to practice multiplying mixed numbers.

STEPS	Multiplication question	Convert to improper fractions	Simplify	Multiply (answer)	Convert answer to mixed number
Ex.	$5\frac{5}{6} \times 1\frac{3}{5}$	$\frac{35}{6} \times \frac{8}{5}$	$\frac{^{7}\cancel{35}}{\cancel{6}_{3}} \times \frac{\cancel{8}^{4}}{\cancel{5}_{1}}$	$\frac{28}{3}$	$9\frac{1}{3}$
a.	$2\frac{5}{8} \times 3\frac{2}{7}$				
b.	$4\frac{2}{5} \times 1\frac{7}{8}$				
c.	$2\frac{2}{9} \times 4\frac{1}{2}$				
d.	$6 \times 3\frac{3}{4}$				
e.	$3\frac{1}{3} \times 9$				

2. Follow the same steps as you did above to multiply the following mixed numbers.

a. $2\frac{2}{5} \times 1\frac{5}{6}$ c. $1\frac{3}{5} \times 3\frac{3}{4}$

b. $7\frac{1}{2} \times 2\frac{2}{3}$ d. $4\frac{6}{9} \times 1\frac{6}{21}$

3. The following steps are needed to divide with mixed numbers, but they are out of order. Put the steps in order.

_____ Simplify the answer by converting it to a mixed number.

_____ Multiply.

_____ Convert any mixed numbers in the question to improper fractions.

_____ Check to see that your final answer is in lowest terms.

_____ Change the division to a multiplication by using the reciprocal of the divisor and simplify where possible.

4. Follow each step as you fill in the following table to practice dividing with mixed numbers.

STEPS	Division question	Convert mixed numbers to improper fractions	Convert to a multiplication and simplify	Answer	Simplify (Convert to mixed number)
Ex.	$4\frac{2}{3} \div 2$	$\frac{14}{3} \div \frac{2}{1}$	$\frac{^7\cancel{14}}{3} \times \frac{1}{\cancel{2}_1}$	$\frac{7}{3}$	$2\frac{1}{3}$
a.	$5\frac{5}{8} \div 3$				
b.	$5 \div 1\frac{7}{8}$				
c.	$2\frac{5}{7} \div 1\frac{1}{2}$				
d.	$9\frac{1}{4} \div 3\frac{3}{4}$				
e.	$4\frac{1}{3} \div \frac{1}{6}$				

5. Follow the same steps as you did above to solve the following problems containing mixed numbers.

   a. $7\frac{1}{3} \div 3\frac{1}{2}$

   b. $8 \div 2\frac{4}{7}$

   c. $\frac{4}{5} \div 4\frac{3}{5}$

   d. $6\frac{3}{4} \div 3$

6. Solve the following problems. _Reminder: Follow the same steps as you did above for solving division problems containing mixed numbers._

   a. A builder needs to cut a number of pieces of lumber to $21\frac{1}{2}$ inches long. She needs to cut up 10-foot boards to get these. 10 feet is 120 inches. How many $21\frac{1}{2}$ inch pieces will she get from each board?

   b. Gerry made up 25 cups of brine with which to prepare salmon for smoking. He needs $2\frac{1}{4}$ cups of brine for each salmon that he smokes. How many salmon can he prepare with the brine that he has already made up?

2.5 ADDING AND SUBTRACTING FRACTIONS

1. In order to add or subtract fractions, they must have _____.

2. In your own words, explain why it is necessary for fractions to have the same denominator in order to add or subtract them. _____

_____

3. Circle the questions that are ready to be added or subtracted.

a. $\frac{1}{4} + \frac{3}{4}$ b. $\frac{6}{11} - \frac{6}{7}$ c. $\frac{7}{5} - \frac{1}{5}$ d. $\frac{47}{100} + \frac{31}{100}$ e. $\frac{1}{2} + \frac{5}{9}$

f. $\frac{13}{20} - \frac{13}{30}$ g. $\frac{2}{3} + \frac{2}{3}$ h. $\frac{5}{8} + \frac{3}{8} + \frac{11}{8}$ i. $\frac{9}{10} - \frac{3}{10} - \frac{3}{4}$ j. $\frac{5}{5} + \frac{7}{7}$

4. Add the following fractions. _Reminder_: _Make sure your answer is in lowest terms._ _Improper fractions should be expressed as mixed numbers._

Ex. $\frac{2}{5} + \frac{1}{5}$ $= \frac{3}{5}$

c. $\frac{23}{100} + \frac{37}{100}$

a. $\frac{3}{7} + \frac{2}{7}$

d. $\frac{4}{15} + \frac{14}{15}$

b. $\frac{5}{12} + \frac{6}{12}$

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

5. Subtract the following fractions.

Ex. $\frac{7}{10} - \frac{3}{10}$ $= \frac{4}{10}$ $= \frac{2}{5}$

c. $\frac{15}{11} - \frac{10}{11}$

a. $\frac{4}{5} - \frac{2}{5}$

d. $\frac{12}{25} - \frac{7}{25}$

b. $\frac{7}{8} - \frac{3}{8}$

e. $\frac{10}{3} - \frac{8}{3}$

6. Add or subtract the following fractions. _Reminder: First, find the common denominator of the two fractions, then convert the fractions to have that denominator, then add. Express fractions in lowest terms._

Ex. $\frac{2}{3}+\frac{2}{9} = \frac{6}{9}+\frac{2}{9}=\frac{8}{9}$

a. $\frac{2}{3}+\frac{4}{15}$

b. $\frac{2}{5}+\frac{3}{10}$

c. $\frac{7}{8}-\frac{1}{4}$

d. $\frac{1}{2}+\frac{3}{4}$

e. $\frac{5}{6}+\frac{1}{2}$

f. $\frac{4}{5}-\frac{8}{25}$

g. $\frac{3}{4}-\frac{1}{12}$

7. Add or subtract the following fractions.

a. $\frac{1}{2}+\frac{3}{5}$

b. $\frac{1}{4}+\frac{1}{3}$

c. $\frac{11}{18}-\frac{1}{2}$

d. $\frac{1}{4}+\frac{3}{10}$

e. $\frac{2}{9}+\frac{5}{6}$

f. $\frac{7}{10}-\frac{4}{25}$

g. $\frac{2}{7}+\frac{2}{3}$

h. $\frac{3}{4}-\frac{2}{9}$

8. Answer the following questions. Write out all of your work and express your answer using a fraction.

   a. A puppy weighed $\frac{1}{3}$ kg at birth. After two weeks, its weight increased by $\frac{7}{8}$ kg. How much did the puppy weigh at 2 weeks old?

   b. A man had a piece of leather that was $\frac{3}{4}$ metre long. He cut off $\frac{2}{5}$ metre for a project. How much of the original piece of leather is left?

9. Follow each step as you fill in the table to practice adding and subtracting with mixed numbers.

STEPS	Question	Convert mixed numbers to improper fractions	Find lowest common denominator	Add/ Subtract	Simplify (Convert to mixed number)
Ex.	$2\frac{2}{3}+4\frac{1}{9}$	$\frac{8}{3}+\frac{37}{9}$	$\frac{24}{9}+\frac{37}{9}$	$\frac{61}{9}$	$6\frac{7}{9}$
a.	$1\frac{7}{8}+2\frac{1}{2}$				
b.	$3\frac{3}{5}+3\frac{9}{10}$				
c.	$4\frac{5}{6}-1\frac{1}{3}$				
d.	$6\frac{3}{4}-5\frac{1}{2}$				

10. Follow the same steps as you did above to add and subtract the following mixed numbers.

a. $5\frac{7}{9}+4\frac{1}{6}$

b. $7\frac{1}{10}-6\frac{1}{4}$

c. $20\frac{1}{3}-5\frac{8}{9}$

d. $2\frac{1}{8}+5\frac{1}{12}$