

Name: _____ Date: _____ Hour: _____

Adding and Subtracting Fractions

Learning Objective: I can add and subtract fractions with like and unlike denominators.

Like fractions are fractions with the same denominator. You can add and subtract like fractions easily - simply add or subtract the numerators and write the sum over the common denominator

Unlike fractions are fractions with different denominators. Adding and subtracting fractions with different denominators has a few more steps to it. Take a look at the chart below:

Steps for Adding and Subtracting Fractions

- 1 Do the fractions have like or unlike denominators?
- 2 If the fractions have unlike denominators, find a common denominator.
 - 1) List multiples of both denominators
 - 2) Circle the first multiple that both numbers have in common. This number is the Least Common Multiple or common denominator.
 - 3) Write equivalent fractions with a denominator of 12 and multiply.
- 3 Find the sum or difference.
- 4 Find the simplest form or convert to a mixed number.

1. Do the fractions have like or unlike denominators?

Common Denominator:

2. If the fractions have unlike denominators, find a common denominator

$$\frac{\quad}{\quad} + \frac{\quad}{\quad}$$

$$\frac{\quad}{\quad} + \frac{\quad}{\quad}$$

Common Denominator:

3. Find the sum or difference.

$$\frac{\quad}{\quad} + \frac{\quad}{\quad}$$

$$\frac{\quad}{\quad} + \frac{\quad}{\quad}$$

4. Find the simplest form or convert to a mixed number.

Common Denominator:

$$\frac{\quad}{\quad} - \frac{\quad}{\quad}$$

$$\frac{\quad}{\quad} - \frac{\quad}{\quad}$$

Common Denominator:

$$\frac{\quad}{\quad} - \frac{\quad}{\quad}$$

$$\frac{\quad}{\quad} - \frac{\quad}{\quad}$$

Add/Subtracting Fractions and Mixed Numbers

Evaluate each expression.

1) $\frac{5}{4} - \frac{3}{4}$

2) $\frac{3}{2} - \frac{1}{2}$

3) $\frac{2}{5} + \frac{4}{5}$

4) $\frac{1}{3} - \frac{1}{3}$

5) $6 - \frac{1}{6}$

6) $\frac{1}{2} - \frac{1}{2}$

7) $\frac{1}{5} + \frac{1}{5}$

8) $\frac{7}{6} - \frac{5}{6}$

9) $\left(-\frac{4}{5}\right) - \frac{7}{8}$

10) $\frac{1}{3} - \left(-\frac{5}{3}\right)$

11) $\left(-\frac{1}{3}\right) + \frac{3}{8}$

12) $\left(-\frac{10}{7}\right) + \frac{1}{6}$

13) $\frac{9}{5} + \left(-\frac{4}{3}\right)$

14) $2 - \frac{13}{8}$

$$15) \frac{9}{5} - \frac{5}{8}$$

$$16) \left(-\frac{4}{3}\right) - \left(-\frac{3}{2}\right)$$

$$17) (-1) + \left(-2\frac{2}{5}\right)$$

$$18) \left(-3\frac{3}{5}\right) - 4\frac{2}{5}$$

$$19) 3\frac{6}{7} + \left(-1\frac{1}{7}\right)$$

$$20) 1\frac{2}{7} + \left(-3\frac{4}{7}\right)$$

$$21) 2\frac{1}{3} + \left(-1\frac{2}{3}\right)$$

$$22) \left(-1\frac{3}{4}\right) + \left(-3\frac{3}{4}\right)$$

$$23) \left(-1\frac{7}{8}\right) + \left(-3\frac{1}{2}\right)$$

$$24) \left(-2\frac{7}{8}\right) + \left(-1\frac{1}{2}\right)$$

$$25) \left(-2\frac{5}{6}\right) - \left(-1\frac{1}{4}\right)$$

$$26) \left(-3\frac{5}{8}\right) - 4\frac{2}{5}$$

$$27) 1\frac{2}{5} - \left(-3\frac{3}{4}\right)$$

$$28) 2\frac{4}{5} - \frac{5}{8}$$

Adding and Subtracting Mixed Fractions (A)

Find the value of each expression in lowest terms.

1. $2\frac{1}{5} + 1\frac{3}{4}$

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

9. $3\frac{1}{2} - 1\frac{1}{2}$

2. $3\frac{1}{2} - 2\frac{2}{3}$

6. $3\frac{1}{2} - 2\frac{5}{9}$

10. $5\frac{1}{2} + 5\frac{1}{4}$

3. $3\frac{1}{2} - 3\frac{1}{2}$

7. $2\frac{3}{4} + 1\frac{1}{5}$

11. $1\frac{10}{11} - 1\frac{1}{3}$

4. $5\frac{3}{4} - 5\frac{1}{4}$

8. $3\frac{1}{4} - 2\frac{3}{8}$

12. $1\frac{5}{12} + 3\frac{1}{3}$

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Adding and Subtracting Fractions and Mixed Numbers—Algebra 1 Review

Learning Targets: I can add and subtraction fractions with like and unlike denominators.
I can write an improper fraction as a mixed number and vice versa.
I can simplify fractions.

1. $\frac{7}{4} - \frac{8}{5}$

5. $\frac{3}{2} - \frac{9}{7}$

9. $\frac{4}{3} - \frac{2}{5}$

2. $\frac{23}{2} + \frac{9}{4}$

6. $\frac{7}{10} + \frac{2}{5}$

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

3. $\frac{8}{3} - \frac{3}{2}$

7. $\frac{14}{5} - \frac{4}{3}$

11. $\frac{9}{8} + \frac{5}{6}$

4. $\frac{5}{2} - \frac{13}{12}$

8. $\frac{17}{7} - \frac{5}{3}$

12. $\frac{9}{7} - \frac{5}{6}$

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Study Guide - Chapter 0 Test

Learning Target: I can translate verbal expressions into algebraic expressions.

- 1) 30 times the sum of 4 and p
- 2) One-third of the sum of 5 and m
- 3) One-half of the difference of 4 and a number
- 4) The quotient of 4 and a number

Learning Target: I can translate algebraic expressions into verbal expressions.

5) m^2

6) $\frac{3x}{12}$

7) $\frac{h}{6}$

8) $8m + 12$

Learning Target: I can write a mixed number as an improper fraction.

9) $9\frac{4}{7}$

10) $10\frac{2}{11}$

11) $4\frac{6}{8}$

12) $4\frac{1}{3}$

13) $5\frac{6}{7}$

13) $9\frac{1}{11}$

Learning Target: I can add, subtract, multiply, and divide positive and negative numbers.

$(+15) \times (+7) =$

$(-2) \times (-11) =$

$(+5) - (-9) =$

$(+96) \div (-12) =$

$(+30) \div (+2) =$

$(-4) + (+13) =$

$(+2) - (-9) =$

$(+70) \div (+5) =$

$(+11) + (-15) =$

$(+13) - (+12) =$

$(-4) + (-3) =$

$(+2) \times (+8) =$

$(+4) - (-8) =$

$(+4) + (-6) =$

$(-150) \div (+10) =$

$(-3) - (+12) =$

$(-3) \times (-4) =$

$(-9) \div (-3) =$

Learning Target: I can write an improper fraction as a mixed number.

$1) \quad \frac{58}{9} = \underline{\quad}$

$2) \quad \frac{33}{7} = \underline{\quad}$

$4) \quad \frac{25}{12} = \underline{\quad}$

$5) \quad \frac{31}{7} = \underline{\quad}$

$7) \quad \frac{36}{8} = \underline{\quad}$

$8) \quad \frac{26}{8} = \underline{\quad}$

$10) \quad \frac{53}{12} = \underline{\quad}$

$11) \quad \frac{41}{6} = \underline{\quad}$

Learning Target: I can simplify fractions.

$1) \quad \frac{10}{20} = \underline{\quad}$

$11) \quad \frac{7}{84} = \underline{\quad}$

$2) \quad \frac{5}{60} = \underline{\quad}$

$12) \quad \frac{18}{24} = \underline{\quad}$

$3) \quad \frac{40}{80} = \underline{\quad}$

$13) \quad \frac{35}{42} = \underline{\quad}$

Learning Target: I can add and subtract fractions with like and unlike denominators.

$$1) \frac{3}{4} + \frac{3}{14} =$$

$$1) \frac{6}{16} - \frac{1}{4} =$$

$$2) \frac{1}{22} + \frac{3}{11} =$$

$$2) \frac{2}{8} - \frac{1}{4} =$$

$$1) 4\frac{7}{26} + 5\frac{7}{13} =$$

$$1) 7\frac{4}{6} - 4\frac{2}{3} =$$

$$2) 1\frac{6}{7} + 5\frac{2}{21} =$$

$$2) 6\frac{4}{7} - 4\frac{8}{28} =$$

Learning Target: I can multiply and divide fractions.

$$2) \frac{7}{8} \times \frac{2}{3} =$$

$$1) \frac{4}{9} \div \frac{2}{7} =$$

$$3) \frac{7}{10} \times \frac{1}{5} =$$

$$2) \frac{1}{10} \div \frac{1}{2} =$$

$$3) \frac{5}{8} \div \frac{2}{3} =$$

1) While hiking, Bob went up 700 feet. He then proceeded to go down 300 feet. If Bob started at 100 feet **below** sea level, what is his elevation now?

2) Sylvia burns 6 calories per minute when she runs. How many calories does she burn when she runs for 15 minutes?

3) Chandler drives his car 20 miles round trip to work everyday. How many total miles does he drive to and from work in 5 days?

4) The temperature in Fairbanks, Alaska, dropped over four consecutive hours from 0 degrees Fahrenheit to -44 degrees Fahrenheit. If the temperature dropped the same amount each hour, how much did the temperature change each hour?

5) Sue withdrew \$20 at a time from her bank account and withdrew a total of \$140. Frank withdrew \$45 at a time from his bank account and withdrew a total of \$270. Who made the greater number of withdrawals? Justify your answer, and **SHOW YOUR WORK**.