

Name

CAMPUS COMMUNITY SUMMER PACKET

THE PACKET IS DUE DURING THE SECOND WEEK OF SCHOOL. ALL QUESTIONS MUST BE ANSWERED AND ALL WORK MUST BE SHOWN TO RECEIVE CREDIT.

STUDENTS WHO DO NOT COMPLETE THE PACKET WILL BE REQUIRED TO REMAIN AFTER SCHOOL ON SELECTED DAYS TO COMPLETE THE PACKET.

Cut along the dotted lines and glue it into your notebook.

Learning Target: I can write and solve a two-step equation from a word problem

Example #1 - Practice

Melanie saves \$20 every month in her savings account. She withdrew \$60 one time to go shopping. She now has \$280 in her account. Write and solve an equation to determine how many months she has been saving.

1. Define the variable:
2. Write the equation and solve:
3. Write your answer in a sentence:

Example #2 - Try it Out!

A group of four people ate dinner at a restaurant. They divided the bill equally and each person left a \$2 tip. They each paid \$14. Write and solve an equation to determine the amount of the total bill.

1. Define the variable:
2. Write the equation and solve:
3. Write your answer in a sentence:

Cut along the dotted lines and glue it into your notebook.

Learning Target: I can use inverse operations to solve a two-step equation

Review: Solve each one-step equation. Show your work.

1) $n - 8 = -3$

2) $-2m = -24$

3) $\frac{m}{2} = -7$

4) $\frac{2}{3}y = 20$

Solving a two-step equation

$$5y + 12 = 32$$

1. Undo addition or subtraction
2. Undo multiplication or division
3. Check by substitution

$$5y + 12 = 32$$

Try It Out (show your work)

$$6m - 8 = 16$$

$$6 - 8x = 22$$

$$\frac{k}{-3} + 3 = -2$$

$$\frac{1}{3}x + 3 = -2$$

Two-Step Equations Practice Worksheet

Name: _____

Date: _____

Show the inverse operations and check your answer by substitution.

1 $-5y + 8 = -7$

2 $\frac{m}{4} + 8 = 10$

3 $\frac{a}{-3} - 6 = -1$

4 $3n - 10 = 5$

5 $\frac{x}{10} + 4 = 10$

6 $\frac{1}{3}c - 7 = 1$

7 Michelle is a server in a restaurant. On a weekend night, Michelle earned \$4 an hour and \$65 in tips. She made a total of \$93. Write and solve an equation to determine how many hours she worked.

8 On Monday, Ken spent half of his money on a new game. The next day he earned \$12 mowing lawns. He now has \$32. How much money did Ken have before bought the game?

Two-Step Equations

Name: _____

$$5y + 15 = 20$$

$$6 - 2x = 10$$

$$\frac{1}{2}x + 10 = 4$$

$$\frac{x}{2} + 1 = 7$$

Angie bought tickets for her and her friends to go to the movies. Tickets cost \$8. She also spent \$6 on food. She spent a total of \$46. Write an equation to determine how many tickets Angie bought. Let t represent the number of tickets.

$$\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Two-Step Equations

Name: _____

$$5y + 15 = 20$$

$$6 - 2x = 10$$

$$\frac{1}{2}x + 10 = 4$$

$$\frac{x}{2} + 1 = 7$$

Angie bought tickets for her and her friends to go to the movies. Tickets cost \$8. She also spent \$6 on food. She spent a total of \$46. Write an equation to determine how many tickets Angie bought. Let t represent the number of tickets.

$$\underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Exercise 1 (answers on page 40)

Multiply these fractions. Cancel and simplify if possible.

1. $\frac{1}{8} \times \frac{2}{3} =$

2. $\frac{1}{2} \times \frac{4}{5} =$

3. $\frac{3}{5} \times \frac{10}{11} =$

4. $\frac{8}{9} \times \frac{3}{4} =$

5. $\frac{7}{10} \times \frac{2}{21} =$

6. $\frac{3}{4} \times \frac{5}{7} =$

7. $\frac{5}{9} \times \frac{7}{8} =$

8. $6 \times \frac{1}{3} =$

9. $\frac{5}{9} \times 9 =$

10. $10 \times \frac{1}{2} =$

11. $\frac{1}{3} \times 12 =$

12. $\frac{15}{16} \times \frac{8}{10} =$

13. $\frac{7}{8} \times \frac{12}{13} =$

14. $\frac{6}{9} \times \frac{1}{3} =$

15. $\frac{5}{10} \times \frac{3}{4} =$

16. $\frac{16}{17} \times \frac{23}{24} =$

17. $\frac{5}{16} \times \frac{20}{30} =$

18. $\frac{9}{10} \times \frac{50}{100} =$

Multiplying Mixed Numbers

Change mixed numbers into improper fractions then multiply as before.

Ex. 1: $2\frac{1}{2} \times 3\frac{1}{3} = \frac{5}{2} \times \frac{10}{3} = \frac{25}{3} = 8\frac{1}{3}$

Change the mixed numbers to improper fractions by:

$2\frac{1}{2} = \frac{2 \times 2 + 1}{2} = \frac{4 + 1}{2} = \frac{5}{2}$

- 1) multiplying the bottom number by the whole number
- 2) add the top number
- 3) keep the bottom number.

Cancel top and bottom. Multiply. Improper fractions simplify by dividing.

Ex.2: $4\frac{1}{4} \times 6 = \frac{17}{4} \times \frac{6}{1} = \frac{51}{2} = 25\frac{1}{2}$ Change the mixed number into an improper fraction. Change the whole number into an improper fraction. Cancel. Multiply. Simplify to get the quotient.

Exercise 2 (answers on page 40)

Multiply these fractions. Cancel and simplify if necessary.

1. $1\frac{1}{2} \times 1\frac{3}{4} =$

2. $2\frac{1}{3} \times 5\frac{2}{5} =$

3. $4\frac{1}{3} \times 1\frac{7}{8} =$

4. $\frac{1}{2} \times 2\frac{1}{8} =$

5. $3\frac{1}{4} \times \frac{7}{8} =$

6. $5\frac{5}{7} \times \frac{14}{15} =$

7. $7 \times 1\frac{3}{8} =$

8. $2\frac{4}{5} \times 5 =$

9. $6\frac{2}{3} \times 9 =$

10. $1\frac{8}{9} \times 1\frac{5}{6} =$

11. $7\frac{1}{7} \times 8\frac{2}{5} =$

12. $1\frac{1}{7} \times 9\frac{1}{3} =$

Dividing Mixed Number Fractions

When dividing mixed numbers, change the mixed numbers to improper fractions, invert the fraction on the right of the \div symbol, cancel if possible, multiply then simplify.

$$\text{Ex. 1: } 2\frac{1}{2} \div 1\frac{1}{3} = \frac{5}{2} \div \frac{4}{3} = \frac{5}{2} \times \frac{3}{4} = \frac{15}{8} = 1\frac{7}{8}$$

$$\text{Ex. 2: } 4\frac{1}{2} \div 6 = \frac{9}{2} \div \frac{6}{1} = \frac{9}{2} \times \frac{1}{6} = \frac{3}{2}$$

Exercise 4 (answers on page 40)

Divide the following mixed numbers. Cancel and simplify when possible.

$$1. \quad 2\frac{3}{4} \div 1\frac{1}{8} =$$

$$2. \quad 3\frac{1}{2} \div 1\frac{1}{8} =$$

$$3. \quad 5\frac{2}{5} \div 1\frac{9}{10} =$$

$$4. \quad \frac{3}{4} \div 2\frac{1}{3} =$$

$$5. \quad 6\frac{4}{5} \div \frac{1}{2} =$$

$$6. \quad 8\frac{1}{3} \div \frac{5}{6} =$$

$$7. \quad 8 \div 1\frac{5}{6} =$$

$$8. \quad 3\frac{6}{7} \div 2 =$$

$$9. \quad 5\frac{7}{8} \div 4 =$$

$$10. \quad 3\frac{3}{7} \div 3\frac{3}{7} =$$

$$11. \quad 2\frac{1}{2} \div 1\frac{1}{2} =$$

$$12. \quad 16\frac{2}{3} \div 13\frac{1}{6} =$$

Fraction Word Problems (Multiplication/Division)

When solving word problems, make sure to UNDERSTAND THE QUESTION. Look for bits of information that will help get to the answer. Keep in mind that some sentences may not have key words or key words might even be misleading. USE COMMON SENSE when thinking about how to solve word problems. The first thing you think of might be the best way to solve the problem.

Here are some KEY WORDS to look for in word problems:

Product, times: mean to multiply

Quotient, per, for each, average: mean to divide

Ex. 1: If 3 boxes of candy weigh $6\frac{1}{2}$ pounds, find the weight per box.

"per" means to divide

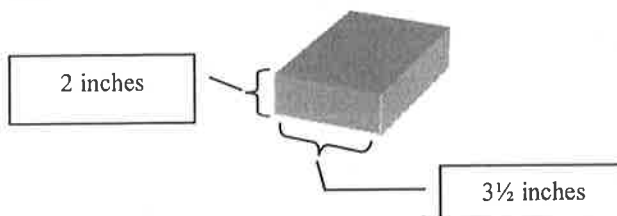
$$6\frac{1}{2} \div 3 = \frac{13}{2} \div \frac{3}{1} = \frac{13}{2} \times \frac{1}{3} = \frac{13}{6} = 2\frac{1}{6} \text{ pounds}$$



Ex. 2: If one "2 by 4" is actually $3\frac{1}{2}$ inches wide, find the width of twelve "2 by 4"s.

twelve "2" by 4"s here means 12 times as wide as one "2" by 4"

$$3\frac{1}{2} \times 12 = \frac{7}{2} \times \frac{12}{1} = 42 \text{ inches}$$



6. The Coffee Pub has cans of coffee that weigh $3\frac{1}{4}$ pounds each. The Pub has $8\frac{1}{2}$ cans of coffee left. What is the total weight of $8\frac{1}{2}$ cans?
7. Belinda baked 9 pies that weigh $20\frac{1}{4}$ pounds total. How much does each pie weigh?
8. A piece of paper is $\frac{4}{1000}$ inches thick. How many sheets of paper will it take to make a stack 1 inch high?
9. Tanya has read $\frac{3}{4}$ of a book, which is 390 pages. How many pages are in the entire book?
10. DJ Gabe is going to serve $\frac{1}{3}$ of a whole pizza to each guest at his party. If he expects 24 guests, how many pizza's will he need?

Ex. 2: $\frac{1}{5} + \frac{1}{6}$

Step 1: 6 is the largest denominator

Step 2: 6 divided by 5 has a remainder.

Multiply $6 \times 2 = 12$.

12 divided by 5 has a remainder

$6 \times 3 = 18$.

18 divided by 5 has a remainder

$6 \times 4 = 24$

24 divided by 5 has a remainder

$6 \times 5 = 30$

30 divided by 5 has NO remainder, therefore 30 is the LCD!

Note: You may have noticed that multiplying the denominators together also gets the LCD. This method will always get a common denominator but it may not get a lowest common denominator.

Exercise 1 (answers on page 41)

Using the previously shown method, write just the LCD for the following sets of fractions (**Do Not Solve**)

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

2) $\frac{2}{5}, \frac{2}{3}$

3) $\frac{5}{8}, \frac{1}{2}$

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

5) $\frac{1}{7}, \frac{2}{5}$

6) $\frac{4}{9}, \frac{1}{3}$

7) $\frac{3}{4}, \frac{1}{2}$

8) $\frac{7}{8}, \frac{3}{5}$

9) $\frac{3}{10}, \frac{2}{3}$

10) $\frac{13}{15}, \frac{4}{5}$

11) $\frac{1}{2}, \frac{2}{3}, \frac{5}{6}$

12) $\frac{3}{4}, \frac{5}{8}, \frac{7}{16}$

13) $\frac{3}{8}, \frac{1}{6}, \frac{1}{3}$

14) $\frac{1}{7}, \frac{1}{2}, \frac{1}{3}$

15) $\frac{3}{8}, \frac{1}{5}, \frac{1}{3}$

Exercise 2 (answers on page 41)

Find the number that belongs in the space by **building** or **reducing** equivalent fractions.

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

2) $\frac{2}{3} = \frac{\quad}{15}$

3) $\frac{5}{6} = \frac{\quad}{12}$

4) $\frac{3}{4} = \frac{\quad}{12}$

5) $\frac{2}{5} = \frac{\quad}{20}$

6) $\frac{5}{7} = \frac{\quad}{21}$

7) $\frac{3}{6} = \frac{\quad}{2}$

8) $\frac{6}{8} = \frac{\quad}{4}$

9) $\frac{8}{10} = \frac{\quad}{5}$

10) $\frac{12}{24} = \frac{\quad}{2}$

11) $\frac{5}{30} = \frac{\quad}{6}$

12) $\frac{7}{14} = \frac{\quad}{2}$

13) $\frac{2}{7} = \frac{\quad}{35}$

14) $\frac{7}{42} = \frac{\quad}{6}$

15) $\frac{10}{15} = \frac{\quad}{3}$

16) $\frac{1}{8} = \frac{\quad}{24}$

17) $\frac{1}{3} = \frac{\quad}{24}$

18) $\frac{20}{22} = \frac{\quad}{11}$

19) $\frac{21}{42} = \frac{\quad}{2}$

20) $\frac{17}{51} = \frac{\quad}{3}$

21) $\frac{10}{30} = \frac{\quad}{3}$

Exercise 4 (answers on page 41)

Add or subtract the following fractions. Simplify and reduce when possible.

1) $\frac{2}{7} + \frac{3}{7} =$

2) $\frac{9}{14} + \frac{1}{14} =$

3) $\frac{1}{6} + \frac{3}{6} =$

4) $\frac{3}{5} + \frac{1}{4} =$

5) $\frac{2}{3} + \frac{1}{2} =$

6) $\frac{4}{5} + \frac{1}{2} =$

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

8) $\frac{5}{6} + \frac{3}{8} =$

9) $\frac{7}{9} + \frac{2}{3} =$

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

11) $\frac{3}{5} - \frac{1}{3} =$

12) $\frac{7}{8} - \frac{2}{3} =$

13) $\frac{5}{12} - \frac{1}{4} =$

14) $\frac{9}{11} - \frac{1}{2} =$

15) $\frac{11}{12} - \frac{5}{6} =$

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

17) $\frac{5}{6} - \frac{1}{4} =$

18) $\frac{9}{10} - \frac{1}{3} =$

19) $\frac{8}{20} + \frac{1}{5} =$

20) $\frac{14}{15} - \frac{1}{6} =$

21) $\frac{4}{7} - \frac{3}{8} =$

22) $\frac{6}{12} + \frac{1}{2} =$

23) $\frac{8}{9} - \frac{2}{3} =$

24) $\frac{12}{16} + \frac{5}{8} =$

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

26) $\frac{4}{5} - \frac{6}{10} =$

27) $\frac{2}{13} + \frac{2}{3} =$

Exercise 5 (answers on page 41)

Add or subtract the following mixed numbers. Simplify and reduce when possible.

$$1) 8\frac{4}{5} + 8\frac{1}{10} =$$

$$2) 1\frac{2}{3} + \frac{3}{7} =$$

$$3) 16\frac{5}{8} + \frac{11}{12} =$$

$$4) 3\frac{4}{5} + 6\frac{2}{3} + 5\frac{11}{15} =$$

$$5) 1\frac{11}{12} - \frac{2}{3} =$$

$$6) 4\frac{1}{8} - 1 =$$

$$7) 5\frac{1}{6} - 2\frac{1}{3} =$$

$$8) 14\frac{1}{2} - 2\frac{1}{8} =$$

$$9) 7\frac{2}{5} + 1\frac{1}{5} =$$

$$10) 2\frac{2}{3} - \frac{1}{4} =$$

$$11) 12\frac{1}{7} - 8\frac{2}{3} =$$

$$12) 4\frac{4}{7} - 3\frac{6}{7} =$$

$$13) 16\frac{5}{6} - 2\frac{1}{3} =$$

$$14) 14 - 2\frac{1}{9} =$$

$$15) 146 + 8\frac{1}{5} =$$

$$16) 5\frac{5}{6} + \frac{10}{12} =$$

$$17) 6 - 4\frac{7}{8} =$$

$$18) 11\frac{3}{5} - 5 =$$

$$19) \frac{2}{3} + 7 =$$

$$20) 2\frac{4}{8} + 1\frac{2}{3} =$$

$$21) 100 - 4\frac{3}{8} =$$

Exercise 6 (answers on page 41)

Solve the following add/subtract fraction word problems

1. Find the total width of 3 boards that $1\frac{3}{4}$ inches wide, $\frac{7}{8}$ inch wide, and $1\frac{1}{2}$ inches wide.
2. A 7.15H tire is $6\frac{5}{8}$ inches wide and a 7.15C tire is $4\frac{3}{4}$ inches wide. What is the difference in their widths?
3. A patient is given $1\frac{1}{2}$ teaspoons of medicine in the morning and $2\frac{1}{4}$ teaspoons at night. How many teaspoons total does the patient receive daily?
4. $3\frac{1}{3}$ feet are cut off a board that is $12\frac{1}{4}$ feet long. How long is the remaining part of the board?
5. $\frac{3}{8}$ of the corn in the U.S. is grown in Iowa. $\frac{1}{4}$ of it is grown in Nebraska. How much of the corn supply is grown in the two states?

6. A runner jogs $7\frac{1}{5}$ miles east, $5\frac{1}{4}$ miles south, and $8\frac{2}{3}$ miles west.

How far has she jogged?

7. If $3\frac{1}{2}$ ounce of cough syrup is used from a $9\frac{1}{4}$ ounce bottle, how much is left?

8. I set a goal to drink 64 ounces of water a day. If I drink $10\frac{1}{3}$ ounces in the morning, $15\frac{1}{2}$ ounces at noon, and $20\frac{5}{6}$ ounces at dinner, how many more ounces of water do I have to drink to reach my goal for the day?

9. Three sides of parking lot are measured to the following lengths: $108\frac{1}{4}$ feet, $162\frac{3}{8}$ feet, and $143\frac{1}{2}$ feet. If the distance around the lot is $518\frac{15}{16}$ feet, find the fourth side.

10. Gabriel wants to make five banners for the parade. He has 75 feet of material. The size of four of the banners are: $12\frac{1}{3}$ ft., $16\frac{1}{6}$ ft., $11\frac{3}{4}$ ft., and $14\frac{1}{2}$ ft. How much material is left for the fifth banner?

Name: _____ Date: _____

Fractions Worksheet

Simplify the following fractions.

1 a. $\frac{15}{55}$

1 b. $\frac{20}{48}$

1 c. $\frac{4}{12}$

2 a. $\frac{9}{60}$

2 b. $\frac{16}{56}$

2 c. $\frac{18}{60}$

3 a. $\frac{13}{39}$

3 b. $\frac{12}{18}$

3 c. $\frac{15}{51}$

4 a. $\frac{3}{12}$

4 b. $\frac{8}{10}$

4 c. $\frac{4}{12}$

5 a. $\frac{5}{5}$

5 b. $\frac{12}{20}$

5 c. $\frac{20}{30}$

6 a. $\frac{4}{54}$

6 b. $\frac{16}{44}$

6 c. $\frac{4}{16}$

Name: _____ Date: _____

Answer Key

1 a. $\frac{3}{11}$

1 b. $\frac{5}{12}$

1 c. $\frac{1}{3}$

2 a. $\frac{3}{20}$

2 b. $\frac{2}{7}$

2 c. $\frac{3}{10}$

3 a. $\frac{1}{3}$

3 b. $\frac{2}{3}$

3 c. $\frac{5}{17}$

4 a. $\frac{1}{4}$

4 b. $\frac{4}{5}$

4 c. $\frac{1}{3}$

5 a. $\frac{1}{1}$

5 b. $\frac{3}{5}$

5 c. $\frac{2}{3}$

6 a. $\frac{2}{27}$

6 b. $\frac{4}{11}$

6 c. $\frac{1}{4}$

Multi-Step Equations

Solve each equation.

1) $-20 = -4x - 6x$

2) $6 = 1 - 2n + 5$

3) $8x - 2 = -9 + 7x$

4) $a + 5 = -5a + 5$

5) $4m - 4 = 4m$

6) $p - 1 = 5p + 3p - 8$

7) $5p - 14 = 8p + 4$

8) $p - 4 = -9 + p$

9) $-8 = -(x + 4)$

10) $12 = -4(-6x - 3)$

11) $14 = -(p - 8)$

12) $-(7 - 4x) = 9$

13) $-18 - 6k = 6(1 + 3k)$

14) $5n + 34 = -2(1 - 7n)$

15) $2(4x - 3) - 8 = 4 + 2x$

16) $3n - 5 = -8(6 + 5n)$

17) $-(1 + 7x) - 6(-7 - x) = 36$

18) $-3(4x + 3) + 4(6x + 1) = 43$

19) $24a - 22 = -4(1 - 6a)$

20) $-5(1 - 5x) + 5(-8x - 2) = -4x - 8x$

Two-Step Equations Practice

Solve each equation.

1) $3 + 5r = -47$

2) $-5 + \frac{n}{3} = -8$

3) $-53 = 3 - 8n$

4) $\frac{b}{2} - 2 = 0$

5) $-10x + 6 = -74$

6) $\frac{m}{9} - 7 = -8$

7) $3 - 5v = -22$

8) $9 + \frac{r}{6} = 7$

9) $-8 = -3 + \frac{m}{3}$

10) $7 = \frac{x}{9} + 8$

$$11) 8 + 9v = 8$$

$$12) 7 - 9m = -11$$

$$13) -9 + 2n = -29$$

$$14) -6r + 3 = -39$$

$$15) 9 + \frac{p}{8} = 7$$

$$16) 4n - 7 = -59$$

$$17) 10 + \frac{x}{3} = 4$$

$$18) 3 + 9n = -150$$

$$19) 21 = -4x - 7$$

$$20) 2x - 7 = -23$$

Two-Step Equations With Integers

Solve each equation.

1) $\frac{r}{10} + 4 = 5$

2) $\frac{n}{2} + 5 = 3$

3) $3p - 2 = -29$

4) $1 - r = -5$

5) $\frac{k - 10}{2} = -7$

6) $\frac{n - 5}{2} = 5$

7) $-9 + \frac{n}{4} = -7$

8) $\frac{9 + m}{3} = 2$

9) $\frac{-5 + x}{22} = -1$

10) $4n - 9 = -9$

11) $\frac{x + 9}{2} = 3$

12) $\frac{-12 + x}{11} = -3$

13) $\frac{-4 + x}{2} = 6$

14) $-5 + \frac{n}{3} = 0$

$$15) \frac{p}{4} + 8 = 7$$

$$16) 9 + \frac{n}{4} = 15$$

$$17) 6 + \frac{x}{2} = 4$$

$$18) \frac{b+11}{3} = -2$$

$$19) \frac{a-10}{3} = -4$$

$$20) -12r + 4 = 100$$

$$21) \frac{m}{16} - 9 = -8$$

$$22) -7 + 4r = -15$$

$$23) \frac{m-13}{2} = -8$$

$$24) -5x + 13 = -17$$

$$25) \frac{k+10}{-2} = 5$$

$$26) \frac{p+8}{-2} = 10$$

$$27) -14r - 19 = 303$$

$$28) \frac{x}{-4} - 5 = -8$$

Two-Step Equations With Integers

Solve each equation.

1) $\frac{r}{10} + 4 = 5$

{10}

2) $\frac{n}{2} + 5 = 3$

{-4}

3) $3p - 2 = -29$

{-9}

4) $1 - r = -5$

{6}

5) $\frac{k-10}{2} = -7$

{-4}

6) $\frac{n-5}{2} = 5$

{15}

7) $-9 + \frac{n}{4} = -7$

{8}

8) $\frac{9+m}{3} = 2$

{-3}

9) $\frac{-5+x}{22} = -1$

{-17}

10) $4n - 9 = -9$

{0}

11) $\frac{x+9}{2} = 3$

{-3}

12) $\frac{-12+x}{11} = -3$

{-21}

13) $\frac{-4+x}{2} = 6$

{16}

14) $-5 + \frac{n}{3} = 0$

{15}