Name _____

Estimating Fraction Sums

P 10-1

Write > or < for each ◯.

1. $\frac{2}{6} + \frac{1}{3}$ ◯ 1
2. $\frac{2}{3} + \frac{4}{5}$ ◯ 1
3. $\frac{3}{4} + \frac{7}{10}$ ◯ 1
4. $\frac{2}{7} + \frac{1}{6}$ ◯ 1
5. $\frac{4}{10} + \frac{3}{8}$ ◯ 1
6. $\frac{8}{10} + \frac{5}{6}$ ◯ 1
7. $\frac{1}{4} + \frac{3}{12}$ ◯ 1
8. $\frac{3}{7} + \frac{1}{16}$ ◯ 1

Estimate to decide whether each sum is greater than 1 or less than 1. If you cannot tell, explain why.

9. $\frac{2}{3} + \frac{5}{6}$ _____

_____

10. $\frac{1}{16} + \frac{8}{20}$ _____

_____

11. $\frac{8}{9} + \frac{1}{7}$ _____

_____

12. Three quarters are worth $\frac{3}{4}$ of a dollar and 4 dimes are worth $\frac{4}{10}$ of a dollar. Are 3 quarters and 4 dimes worth more than or less than a dollar?

_____

13. A half dollar is worth $\frac{1}{2}$ of a dollar and 5 nickels are worth $\frac{5}{20}$ of a dollar. Are 1 half dollar and 5 nickels worth more than or less than a dollar?

_____

Test Prep

14. Which of the following is greater than 1?

A. $\frac{1}{2} + \frac{1}{3}$ B. $\frac{7}{8} + \frac{6}{10}$ C. $\frac{2}{5} + \frac{5}{12}$ D. $\frac{6}{18} + \frac{3}{7}$

15. **Writing in Math** Explain how to estimate if $\frac{3}{5} + \frac{5}{8}$ is greater than or less than 1.

_____

_____

Name _____

Adding Fractions with Like Denominators

P 10-2

Find each sum.

1. $\frac{7}{10} + \frac{2}{10} =$ _____
2. $\frac{4}{5} + \frac{4}{5} =$ _____
3. $\frac{1}{6} + \frac{2}{6} =$ _____
4. $\frac{3}{8} + \frac{2}{8} =$ _____
5. $\frac{2}{5} + \frac{2}{5} =$ _____
6. $\frac{3}{6} + \frac{1}{6} =$ _____
7. $\frac{4}{6} + \frac{4}{6} =$ _____
8. $\frac{2}{3} + \frac{2}{3} =$ _____
9. $\frac{1}{8} + \frac{1}{8} =$ _____
10. $\frac{4}{12} + \frac{6}{12} =$ _____

11. **Number Sense** Cindy says that when two numerators add up to the same number as the two like denominators, the answer will always be 1. Is she correct? Explain.

_____

_____

_____

There are 8 pencils in a box: 2 are red, 2 are blue, 3 are yellow, and 1 is brown. What fraction of the pencils are

12. red? _____
13. yellow? _____
14. red and blue combined? _____

Test Prep

15. Which is the sum of $\frac{8}{12} + \frac{1}{12}$?

A. $\frac{9}{24}$ B. $\frac{5}{12}$ C. $\frac{7}{12}$ D. $\frac{9}{12}$

16. **Writing in Math** Explain how you know your answer to Exercise 10 is reasonable.

_____

_____

Name _____

Adding Fractions with Unlike Denominators

P 10-3

Find each sum.

1. $\frac{1}{3} + \frac{1}{4} =$ _____

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

3. $\frac{5}{8} + \frac{1}{4} =$ _____

4. $\frac{3}{10} + \frac{5}{6} =$ _____

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

6. $\frac{1}{12} + \frac{3}{4}$

7. $\frac{1}{8} + \frac{1}{4}$

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

9. $\frac{1}{7} + \frac{2}{5}$

10. $\frac{5}{6} + \frac{1}{3}$

11. $\frac{1}{14} + \frac{2}{7}$

12. $\frac{1}{3} + \frac{4}{15}$

A class was asked how many siblings each student had. The results are listed in the table.

Number of Siblings

0	1	2	3 or more
$\frac{11}{30}$	$\frac{1}{3}$	$\frac{1}{5}$	$\frac{1}{10}$

13. What fraction of the class has fewer than 2 siblings?

_____

14. What fraction of the class has more than 1 sibling? _____

Test Prep

15. Which is the sum of $\frac{5}{7} + \frac{1}{2}$?

A. $\frac{3}{7}$ B. $\frac{6}{7}$ C. $1\frac{1}{7}$ D. $1\frac{3}{14}$

16. **Writing in Math** Is Amanda's work correct? Explain why or why not.

_____

_____

_____

$$\begin{array}{r} \frac{3}{4} = \frac{3}{12} \\ + \frac{1}{3} = \frac{4}{12} \\ \hline \frac{7}{12} \end{array}$$

Name _____

Subtracting Fractions with Like Denominators

P 10-4

Find each difference.

1. $\frac{5}{6} - \frac{4}{6} =$ _____

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

3. $\frac{4}{5} - \frac{2}{5} =$ _____

4. $\frac{7}{8} - \frac{2}{8} =$ _____

5. $\frac{3}{4} - \frac{2}{4} =$ _____

6. $\frac{4}{5} - \frac{1}{5} =$ _____

7. $\frac{7}{9} - \frac{1}{9} =$ _____

8. $\frac{9}{12} - \frac{7}{12} =$ _____

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

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

11. $\frac{2}{5} - \frac{1}{5}$

12. $\frac{9}{15} - \frac{4}{15}$

13. Mr. Brown had $\frac{4}{5}$ tbsp of salt. He used $\frac{1}{5}$ tbsp of salt in a recipe. How much is left? _____

14. In Mrs. DeLong's class, $\frac{5}{9}$ of her class are boys and $\frac{4}{9}$ of her class are girls. What is the difference between the fraction of boys and the fraction of girls? _____

15. **Estimation** Is $\frac{11}{12} - \frac{7}{12}$ more than or less than $\frac{1}{2}$? Explain.

_____

Test Prep

16. Which is the difference of $\frac{7}{15} - \frac{3}{15}$?

A. $\frac{4}{30}$ B. $\frac{4}{15}$ C. $\frac{1}{2}$ D. 4

17. **Writing in Math** Frank says that $\frac{6}{12} - \frac{1}{12}$ is less than $\frac{1}{2}$. Is he correct? Explain your answer.

_____

_____

Name _____

Subtracting Fractions with Unlike Denominators

P 10-5

Find each difference. Simplify if necessary.

1. $\frac{5}{6} - \frac{1}{3} =$ _____

2. $\frac{4}{5} - \frac{2}{3} =$ _____

3. $\frac{7}{8} - \frac{1}{2} =$ _____

4. $\frac{11}{12} - \frac{3}{4} =$ _____

5. $\frac{7}{12} - \frac{1}{3} =$ _____

6. $\frac{1}{2} - \frac{2}{7} =$ _____

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

8. $\frac{5}{8} - \frac{1}{3} =$ _____

9. $\frac{7}{10} - \frac{2}{5}$

10. $\frac{9}{10} - \frac{1}{2}$

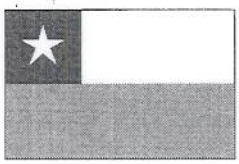
11. $\frac{5}{9} - \frac{2}{5}$

12. $\frac{7}{12} - \frac{1}{10}$

The background of the flag of Chile is $\frac{1}{6}$ blue, $\frac{1}{3}$ white, and $\frac{1}{2}$ red.

13. How much more of the flag is red than blue?

_____



14. How much more of the flag is white than blue?

_____

15. What fraction of the flag is blue and white combined?

_____

Test Prep

16. Which is the difference of $\frac{1}{2} - \frac{1}{16}$?

A. $\frac{1}{16}$ B. $\frac{1}{8}$ C. $\frac{3}{8}$ D. $\frac{7}{16}$

17. **Writing in Math** Explain how you know that $\frac{7}{8} - \frac{1}{4}$ will be more than $\frac{1}{2}$.

_____

_____

Name_____

PROBLEM-SOLVING STRATEGY **P 10-6**

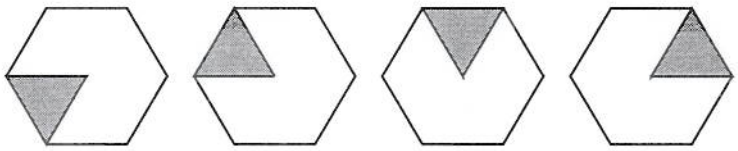
Use Logical Reasoning

Solve each problem. Write the answer in a complete sentence.

1. Jennifer and her four friends, Anna, Debra, Mary, and Sue, were born in different months of the same year. The girls were born in January, March, April, September, and December. None of the girls were born in a month that begins with the same letter as their first name. Sue is the youngest, and Debra is the oldest. Jennifer was born in September. In what month was Mary born?

_____

2. What figure comes next?



3. John, Ben, and Thomas each brought a different kind of sandwich for lunch. The boys had bologna, ham, and turkey sandwiches. John does not like ham, and Thomas brings bologna every day. What kind of sandwich did each boy bring for lunch?

_____

_____

_____

_____

4. Randall has a meeting this afternoon. He knows it is on the half hour, but he cannot remember which half hour. The meeting is after 1 P.M. and before 6 P.M. The sum of the digits in the time is 7. What time is Randall's meeting?

_____

Name _____

Length and Customary Units

P 10-7

Estimate first. Then, measure each length to the nearest inch.

1. ⊢——————————————⊣ _____

2. ⊢————⊣ _____

Choose the most appropriate unit to measure the length of each. Write in., ft, yd, or mi.

3. boat _____

4. wallet _____

5. soccer field _____

6. finger bandage _____

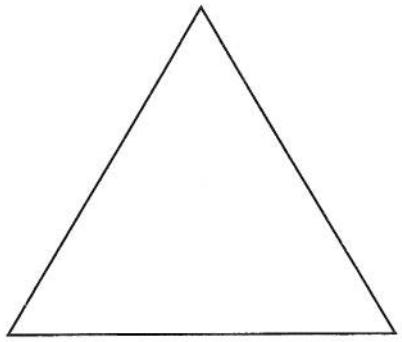
7. computer cable _____

8. train route _____

9. nose _____

10. sea _____

11. Use a ruler to find the perimeter of the triangle.



_____

12. Eileen needs 9 ft of fabric to make a skirt. How many yards of fabric does she need?

_____

Test Prep

13. Which unit would be most appropriate for measuring the length of a barn?

A. Inches **B.** Pounds **C.** Yards **D.** Miles

14. **Writing in Math** Explain how you would decide which unit is best for measuring your math book.

_____

_____

Name _____

Fractions of an Inch

P 10-8

Measure each to the nearest $\frac{1}{2}$ inch, $\frac{1}{4}$ inch, and $\frac{1}{8}$ inch.

1.  _____, _____, _____

2.  _____, _____, _____

3. 

_____, _____, _____

4. Draw a line segment that is $4\frac{5}{8}$ in. long to the nearest $\frac{1}{8}$ inch and $4\frac{3}{4}$ in. to the nearest $\frac{1}{4}$ inch.

What is the combined diameter of

5. 2 pennies to the nearest $\frac{1}{4}$ inch?

_____

6. 1 nickel and 1 dime to the nearest $\frac{1}{8}$ inch?

_____

Diameter of Coin to Nearest $\frac{1}{8}$ in.

Penny	$\frac{3}{4}$ in.
Nickel	$\frac{7}{8}$ in.
Dime	$\frac{3}{4}$ in.
Quarter	1 in.

Test Prep

7. Find the length to the nearest $\frac{1}{4}$ in.

A. 1 in. **B.** $1\frac{1}{4}$ in. **C.** $1\frac{1}{2}$ in. **D.** 2 in.

8. **Writing in Math** Use the information in the table above. Which coin would be useful to measure an object to the nearest inch? Explain.

_____

_____

_____

Name _____

Capacity and Customary Units

P 10-9

Choose the most appropriate unit or units to measure the capacity of each. Write tsp, tbsp, fl oz, c, pt, qt, or gal.

1. teacup _____
2. juice box _____
3. motor oil _____
4. pepper in a recipe _____
5. carton of creamer _____
6. lake _____

7. **Number Sense** Would a teaspoon be a good way to measure the capacity of a milk carton? Explain.

_____

_____

8. A refreshment jug for the baseball team holds 20 gal of water. To make an energy drink, 1 c of mix is used for every 2 gal of water. How many cups of the mix are needed to fill the jug with energy drink? _____

Test Prep

9. Which unit has the greatest capacity?

A. Tablespoon **B.** Quart

C. Pint **D.** Teaspoon

10. **Writing in Math** Cassidy says that capacity is the same as the amount. Do you agree? Explain why or why not.

_____

_____

_____

_____

Name _____

Weight and Customary Units

P 10-10

Choose the most appropriate unit to measure the weight of each. Write oz, lb, or T.

1. truck _____
2. can of vegetables _____
3. person _____
4. desk _____
5. trailer full of bricks _____
6. cup of flour _____
7. box of paper _____
8. CD _____

9. **Reasoning** Would a scale that is used to weigh food be the best tool to weigh concrete blocks? Explain why or why not.

_____

_____

_____

10. Jen wants to weigh her cat. Should she weigh the cat with ounces, pounds, or tons? _____

11. What unit would you use to measure the weight of your house? _____

Test Prep

12. Which animal would it be appropriate to measure in ounces?

A. Mouse **B.** Elephant **C.** Horse **D.** Cow

13. **Writing in Math** Dezi says that there are more ounces in 1 T than there are pounds. Do you agree? Explain.

_____

_____

_____

Name _____

Changing Units and Comparing Measures

P 10-11

Find each missing number.

1. 2 ft = _____ in.
2. 8 qt = _____ pt
3. 2 gal = _____ qt
4. 9 ft = _____ yd
5. 64 oz = _____ lb
6. 10,560 ft = _____ mi
7. 20 T = _____ lb
8. 4 lb, 6 oz = _____ oz

Compare. Write > or < for each ◯.

9. 20 pt, 2 c ◯ 12 qt
10. 10 lb ◯ 200 oz
11. 13 ft, 6 in. ◯ 5 yd
12. 100 in. ◯ 2 yd
13. 3 gal ◯ 10 qt
14. 9 oz ◯ 9 lb

15. How many inches long is the longest car?

_____

16. How many ounces does the lightest car weigh?

_____

Car Records

Lightest car	21 lb
Heaviest car	7,353 lb
Longest car	100 ft

Test Prep

17. How many fluid ounces are in 6 c?

A. 32 **B.** 40 **C.** 48 **D.** 54

18. **Writing in Math** Explain why you cannot convert fluid ounces to pounds.

_____

_____

_____

Name _____

PROBLEM-SOLVING SKILL **P 10-12**

Exact Answer or Estimate

For 1–4, tell whether an exact answer is needed or if an estimate is enough. Then solve.

1. You have 100 lb of green beans. Each canning jar holds 14 oz of the beans. You have 100 jars. Do you have enough jars to hold all the beans?

_____

_____

Grace is making a dress to enter as a craft fair project. The pattern says that she needs 6 yd of fabric, 1 spool of thread, and 8 one-inch buttons.

2. Grace has 20 ft of fabric that she really likes. Is there enough to make the dress?

_____

_____

3. The buttons that Grace likes are $4.25 for a package of 4 buttons. The right color thread is $2.35. If Grace pays for the supplies with a $20.00 bill, how much change should she receive?

_____

_____

4. You need to add 2 gal of apple juice to a fruit punch. You only have a container that measures quarts. How many quarts should you add?

_____

_____

Name_____

PROBLEM-SOLVING APPLICATION **P 10-13**

Measurements Abound!

Solve each problem. Write your answer in a complete sentence.

1. Ted has 20 ft of rope and Lou has 42 ft of rope. They need to have at least 12 yd of rope between the two of them. Do they have enough? Explain your answer.

_____

_____

2. Arnold, Cathy, Derrick, and Eldon each have a different pet. They have a dog, a cat, a bird, and an iguana. Arnold is allergic to anything with fur. Cathy's pet can say some words, and likes to eat sunflower seeds. Derrick does not have a cat. What kind of animal is Eldon's pet?

_____

Christie runs every morning before school. This week she ran $\frac{2}{3}$ mi each on Monday, Wednesday, and Thursday. She ran $\frac{1}{2}$ mi on Tuesday and $\frac{7}{9}$ mi on Friday.

3. How far did Christie run on Monday, Wednesday, and Thursday combined?

_____

_____

4. Christie wants to run at least 3 mi each week. Did she meet her goal this week? Explain how you decided.

_____

_____

_____

_____