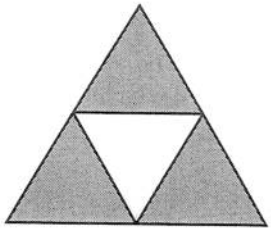
Name _____

Parts of a Region

P 9-1

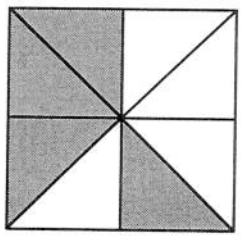
Write a fraction for the part of the region below that is shaded.

1.



_____

2.



_____

Draw a model to show each fraction.

3. $\frac{2}{4}$

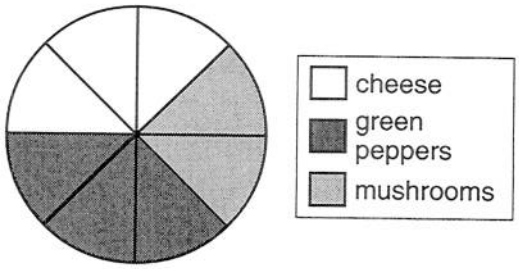
4. $\frac{10}{25}$

5. What fraction of the pizza is cheese?

_____

6. What fraction of the pizza is mushroom?

_____



7. Number Sense Is $\frac{1}{4}$ of 12 greater than $\frac{1}{4}$ of 8? Explain your answer.

_____

_____

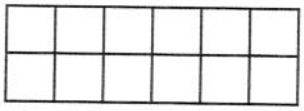
Test Prep

8. A region has 12 equal squares. Which is the number of squares in $\frac{1}{3}$ of the region?

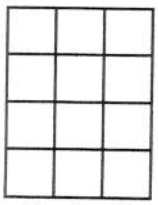
A. 3 **B.** 4 **C.** 6 **D.** 9

9. Writing in Math Explain why $\frac{1}{2}$ of Region A is not larger than $\frac{1}{2}$ of Region B.

_____



Region A



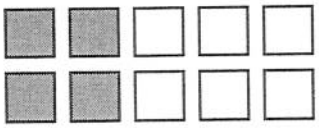
Region B

Name _____

Parts of a Set

P 9-2

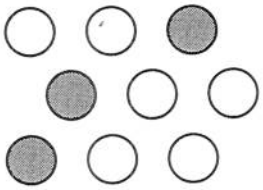
What fraction of each set is shaded?

1. 

_____

2. 

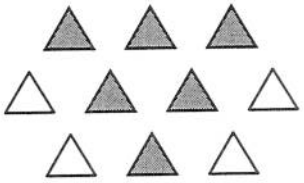
_____

3. 

_____

4. 

_____

5. 

_____

Draw a picture to show each fraction as part of a set.

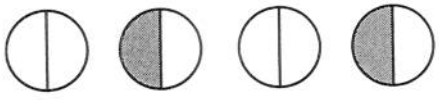
6. $\frac{3}{6}$

7. $\frac{2}{5}$

8. **Number Sense** $\frac{5}{5}$ of the models that Brian has are airplanes. How many are cars?

_____

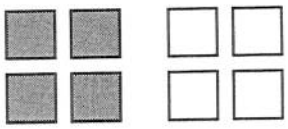
Test Prep



9. What fraction of the half-circles is shaded?

   A. $\frac{1}{8}$ **B.** $\frac{1}{2}$ **C.** $\frac{3}{4}$ **D.** $\frac{2}{8}$

10. **Writing in Math** Frank said that $\frac{1}{2}$ of the squares to the right are shaded. Is he correct? Explain.



_____

_____

Name _____

Fractions, Length, and the Number Line

P 9-3

Write a fraction for the part of each length that is shaded.

1.

2. 

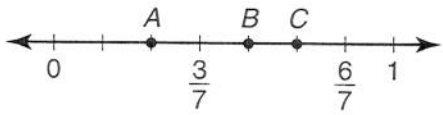
3. 

4.

5. 

6. 

Which fraction should be written at each point?

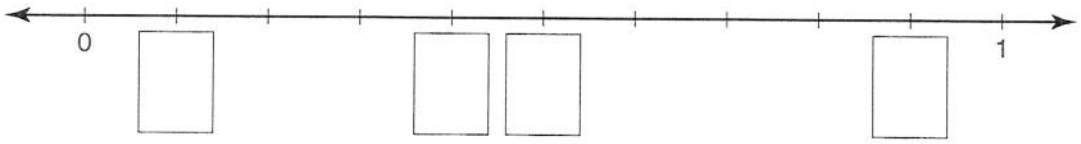


7. *A* _____

8. *B* _____

9. *C* _____

Reasoning Write the missing fractions.

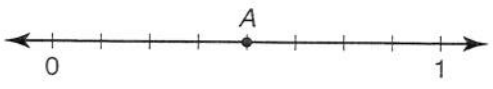
10. 

Test Prep

11. Which fraction could go on a number line instead of 1?

A. $\frac{0}{7}$ **B.** $\frac{5}{7}$ **C.** $\frac{7}{7}$ **D.** $\frac{1}{2}$

12. **Writing in Math** Explain why point A could be written as either $\frac{1}{2}$ or $\frac{4}{8}$.



_____

_____

_____

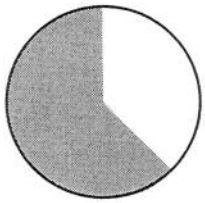
Name _____

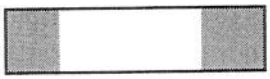
Estimating Fractional Parts

P 9-4

Estimate the fractional part of each that is shaded.

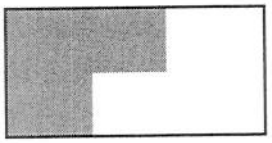
1. 

2. 

3. 

_____ _____ _____

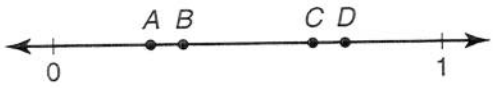
4. **Number Sense** Is $\frac{1}{6}$ a reasonable estimate for the shaded part in the region to the right? Explain.



_____

_____

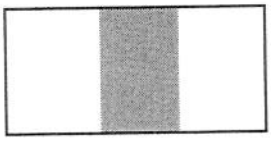
Estimate the fraction that should be written at each point.



5. *A* _____ 6. *B* _____ 7. *C* _____ 8. *D* _____

Test Prep

9. Part of the region to the right is shaded. Which is the best estimate?



A. $\frac{3}{3}$ **B.** $\frac{2}{3}$ **C.** $\frac{1}{3}$ **D.** $\frac{0}{3}$

10. **Writing in Math** Explain how you estimated the shaded region in Exercise 9.

_____

_____

_____

_____

Name _____

PROBLEM-SOLVING STRATEGY **P 9-5**

Draw a Picture

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

1. Three friends divided a veggie pizza into 12 slices. If they divide the pizza equally, what fraction of the pizza would each friend get?

_____

2. Mark is making a quilt with his grandmother. Each row of the quilt has 6 squares. There are 8 rows. $\frac{1}{2}$ of the squares are blue. How many blue squares are in the quilt?

_____

3. Jane pulled weeds in the garden 7 times. She was paid $5 each time she pulled weeds for less than 1 hr and $6 each time she pulled weeds for more than 1 hr. If Jane received $39, how many times did she pull weeds for more than 1 hr?

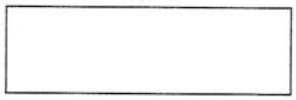
_____

_____

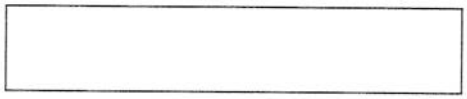
4. Neil needs to cut 3 long boards into 9 smaller boards. The first is 10 ft, the second is 16 ft, and the third is 18 ft. The table lists the smaller boards Neil needs. Use a drawing to show how he can divide the 3 boards so there is no waste.

Length of Board	Number Needed
4 ft	3
5 ft	4
6 ft	2

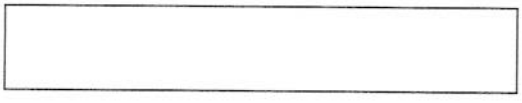
10 ft



16 ft



18 ft



Name _____

Equivalent Fractions

P 9-6

Multiply or divide to find equivalent fractions.

1. $\frac{3}{8} \xrightarrow{\times 3} \frac{\square}{\square}$ (also $\xrightarrow{\times 3}$)

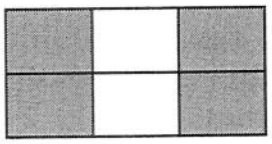
2. $\frac{12}{24} \xrightarrow{\div 2} \frac{\square}{\square}$ (also $\xrightarrow{\div 2}$)

3. $\frac{8}{24} \xrightarrow{\div 8} \frac{\square}{\square}$ (also $\xrightarrow{\div 8}$)

4. $\frac{5}{7} \xrightarrow{\times 2} \frac{\square}{\square}$ (also $\xrightarrow{\times 2}$)

5. $\frac{11}{22}$ _____ **6.** $\frac{1}{5}$ _____ **7.** $\frac{5}{8}$ _____ **8.** $\frac{12}{30}$ _____

9. Number Sense Write two fractions that name the shaded part in the figure to the right. Explain how your fractions are equivalent.



_____

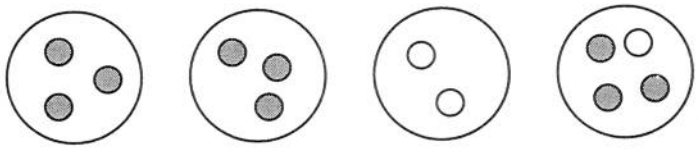
_____

Test Prep

10. Which is NOT an equivalent fraction to $\frac{2}{3}$?

A. $\frac{4}{6}$ **B.** $\frac{6}{9}$ **C.** $\frac{9}{12}$ **D.** $\frac{10}{15}$

11. Writing in Math 12 counters are arranged in 4 dishes as shown. How could you rearrange the shaded or white counters to clearly show two equivalent fractions? What are the fractions?



_____

_____

_____

Name _____

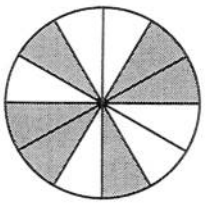
Fractions in Simplest Form

P 9-7

Write each fraction in simplest form. If it is in simplest form, write *simplest form*.

1. $\frac{7}{8}$ _____
2. $\frac{2}{14}$ _____
3. $\frac{3}{9}$ _____
4. $\frac{7}{7}$ _____
5. $\frac{5}{30}$ _____
6. $\frac{20}{36}$ _____
7. $\frac{7}{15}$ _____
8. $\frac{16}{22}$ _____
9. $\frac{8}{12}$ _____
10. $\frac{27}{36}$ _____

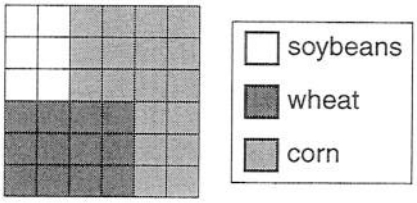
11. **Number Sense** What fraction of the region to the right is shaded? Write your answer in simplest form. Explain how you know.



_____

_____

Give each fraction in simplest form. What fraction of the farm to the right is



12. soybeans? _____

13. wheat? _____

14. corn? _____

Test Prep

15. Which fraction is in simplest form?

A. $\frac{6}{24}$ B. $\frac{7}{24}$ C. $\frac{8}{24}$ D. $\frac{9}{24}$

16. **Writing in Math** Is $\frac{11}{33}$ written in simplest form? How do you know?

_____

_____

Name _____

Using Number Sense to Compare Fractions

P 9-8

Write > or < for each ◯. You may use fraction strips to help.

1. $\frac{1}{2}$ ◯ $\frac{3}{13}$
2. $\frac{8}{9}$ ◯ $\frac{5}{9}$
3. $\frac{3}{8}$ ◯ $\frac{11}{22}$
4. $\frac{3}{3}$ ◯ $\frac{7}{8}$
5. $\frac{3}{5}$ ◯ $\frac{1}{3}$
6. $\frac{1}{4}$ ◯ $\frac{2}{4}$
7. $\frac{5}{6}$ ◯ $\frac{5}{8}$
8. $\frac{7}{12}$ ◯ $\frac{4}{5}$
9. $\frac{3}{7}$ ◯ $\frac{6}{7}$

10. **Number Sense** Explain how you know that $\frac{21}{30}$ is greater than $\frac{2}{3}$.

_____

_____

_____

11. Tina completed $\frac{2}{3}$ of her homework before dinner. George completed $\frac{4}{7}$ of his homework before dinner. Who completed a greater fraction of homework? _____

12. Jackson played a video game for $\frac{1}{6}$ hr. Hailey played a video game for $\frac{1}{3}$ hr. Who played the video game for a greater amount of time? _____

Test Prep

13. Which fraction is greater than $\frac{3}{4}$?

A. $\frac{5}{9}$ B. $\frac{17}{24}$ C. $\frac{15}{20}$ D. $\frac{7}{9}$

14. **Writing in Math** James says that $\frac{5}{5}$ is greater than $\frac{99}{100}$. Is he correct? Explain.

_____

_____

_____

Name _____

Comparing and Ordering Fractions

P 9-9

Compare. Write >, <, or = for each ◯.

1. $\frac{2}{5}$ ◯ $\frac{5}{10}$
2. $\frac{11}{16}$ ◯ $\frac{5}{8}$
3. $\frac{4}{5}$ ◯ $\frac{8}{9}$
4. $\frac{3}{6}$ ◯ $\frac{6}{12}$
5. $\frac{2}{7}$ ◯ $\frac{3}{10}$
6. $\frac{1}{4}$ ◯ $\frac{2}{11}$

7. **Number Sense** Without multiplying, Emily knew that $\frac{4}{9}$ was greater than $\frac{4}{10}$. Explain how she knew.

_____

_____

_____

Order the numbers from least to greatest.

8. $\frac{4}{15}, \frac{2}{5}, \frac{1}{3}$ _____
9. $\frac{4}{10}, \frac{2}{8}, \frac{1}{5}$ _____
10. $\frac{1}{9}, \frac{7}{8}, \frac{5}{6}$ _____
11. $\frac{3}{9}, \frac{1}{4}, \frac{5}{12}$ _____
12. $\frac{13}{16}, \frac{5}{8}, \frac{2}{8}$ _____
13. $\frac{1}{2}, \frac{7}{12}, \frac{4}{10}$ _____

Test Prep

14. Which fraction is greater than $\frac{1}{3}$?

A. $\frac{3}{6}$ B. $\frac{11}{36}$ C. $\frac{1}{4}$ D. $\frac{1}{12}$

15. **Writing in Math** Explain how you know that $\frac{31}{40}$ is greater than $\frac{3}{4}$, but less than $\frac{4}{5}$.

_____

_____

_____

_____

_____

Name _____

Mixed Numbers and Improper Fractions

P 9-10

Write each mixed number as an improper fraction.

1. $3\frac{2}{5}$ _____ **2.** $6\frac{1}{4}$ _____ **3.** $2\frac{1}{12}$ _____ **4.** $2\frac{7}{9}$ _____

Write each improper fraction as a mixed number or whole number.

5. $\frac{12}{5}$ _____ **6.** $\frac{27}{9}$ _____ **7.** $\frac{32}{3}$ _____ **8.** $\frac{20}{12}$ _____

9. Number Sense Matt had to write $3\frac{8}{24}$ as an improper fraction. Write how you would tell Matt the easiest way to do so.

_____

_____

_____

_____

10. Jill has 4 granola bars. Each bar weighs $\frac{2}{3}$ oz. Write the weight of Jill's granola bars as an improper fraction and as a mixed number. _____

11. Nick had $1\frac{3}{4}$ gal of milk. How many pints of milk does Nick have? (Hint: There are 8 pt in 1 gal.) _____

Test Prep

12. Which is NOT an improper fraction equal to 8?

A. $\frac{24}{3}$ **B.** $\frac{49}{7}$ **C.** $\frac{56}{7}$ **D.** $\frac{64}{8}$

13. Writing in Math Write three different improper fractions that equal $4\frac{2}{3}$.

_____

Name _____

Comparing Mixed Numbers

P 9-11

Compare. Write >, <, or = for each ◯.

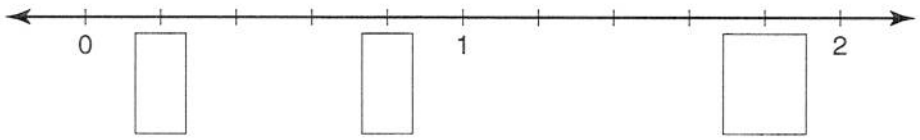
1. $3\frac{1}{4}$ ◯ $2\frac{7}{8}$ **2.** $2\frac{9}{16}$ ◯ $3\frac{1}{5}$ **3.** $1\frac{7}{8}$ ◯ $1\frac{3}{4}$ **4.** $5\frac{3}{8}$ ◯ $5\frac{1}{2}$

5. $3\frac{15}{16}$ ◯ $4\frac{1}{9}$ **6.** $3\frac{2}{3}$ ◯ $3\frac{2}{14}$ **7.** $5\frac{2}{3}$ ◯ $5\frac{3}{5}$ **8.** $1\frac{9}{10}$ ◯ $1\frac{8}{9}$

Reasoning Write the missing numbers as mixed numbers. Write the fractional part in simplest form.

9.

10.



11. Jack and Callie are helping Mr. Harris by washing chalkboards at school. Before they take a lunch break, Jack has washed $3\frac{1}{3}$ chalkboards and Callie has washed $3\frac{5}{6}$ chalkboards. Who has washed more chalkboards? _____

Test Prep

12. Which is greater than $4\frac{2}{3}$?

A. $4\frac{5}{8}$ **B.** $4\frac{3}{4}$ **C.** $4\frac{2}{5}$ **D.** $4\frac{1}{3}$

13. Writing in Math Explain how to find whether or not $2\frac{1}{3}$ is greater than $\frac{9}{4}$.

_____

_____

_____

_____

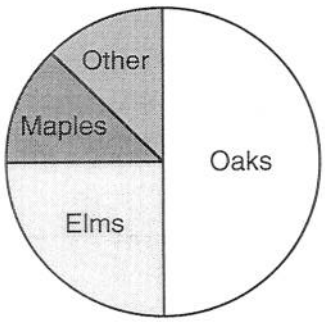
_____

Name _____

Circle Graphs

P 9-12

Julie counted the 24 trees on her block. She wrote the data in a table and then made this circle graph.



What fraction of the trees are

1. oaks? _____

2. elms or maples? _____

3. marked as "other"? _____

4. The table shows the type of table that Julie made to make her circle graph. Because you know that there are 12 oak trees on Julie's block, you can complete the entire table.

Tree	Number
Oaks	
Elms	
Maples	
Other	

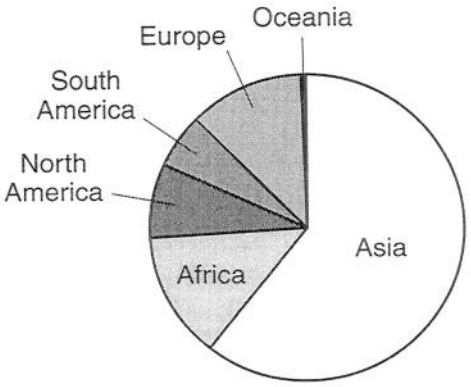
5. About what fraction of the world's population lives in Asia?

_____

6. Name 2 continents that have about $\frac{1}{4}$ of the world's population.

_____

Population by Continent-2001



Test Prep

7. Two parts of a circle graph are each $\frac{1}{3}$ of the circle. The other two parts are equal in size. What fraction of the graph is each of the smaller parts?

   A. $\frac{1}{6}$ **B.** $\frac{1}{4}$ **C.** $\frac{1}{3}$ **D.** $\frac{1}{2}$

8. **Writing in Math** John counted what people were drinking as he walked to school. He saw 3 people drinking coffee, 3 drinking juice, and 2 drinking water. John wants to put the data in a circle graph. How many equal parts should he divide his circle into? Explain your answer.

_____

_____

Name _____

PROBLEM-SOLVING SKILL **P 9-13**

Writing to Explain

1. Mary has 23 marbles. $\frac{7}{23}$ of the marbles are yellow and $\frac{13}{23}$ of the marbles are blue. The rest of the marbles are green. How many marbles are green? Explain how you know.

2. Adam wants to compare the fractions $\frac{2}{5}$, $\frac{1}{6}$, and $\frac{1}{3}$. He wants to order them from least to greatest and rewrite them so they all have the same denominator. Explain how Adam can rewrite the fractions.

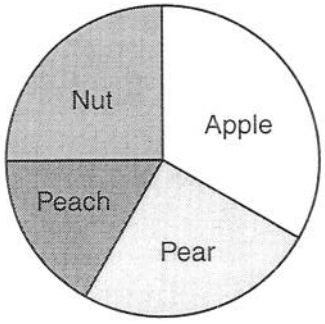
3. Adam used the three fractions to make a circle graph and colored each a different color. What fraction of the graph is not colored? Explain your answer.

Name _____

PROBLEM-SOLVING APPLICATION **P 9-14**

Fractional Orchards

Trees in an Orchard



Tree	Acres
Apple	8
Pear	6
Peach	4
Nut	6

The circle graph and table show the acres for each tree grown in an orchard.

What fractional part of the orchard is

1. apple trees? _____

2. pear and peach trees combined? _____

3. nut trees? _____

4. NOT peach trees? _____

5. Explain how you knew what each fractional part was.

_____

_____

_____

_____

6. The part of the orchard for nut trees is divided into 3 equal parts for 3 different types of nut trees. What fractional part of the whole orchard is each nut tree? Explain.

_____

_____

_____

_____