Name ____________________ Date ____________ Time ____________

LESSON 5•1

Birthday Box

Use only numbers from one data bank below to fill in the missing values for this number story.

Reminder: oz means ounce

For her birthday, Alisha got a box containing ____________ pieces of candy that weighed ____________ oz. Each piece of candy weighed ____________ oz. She ate ____________ pieces of candy. The remaining ____________ pieces of candy and the box weighed ____________ oz. The weight of the box is ____________ oz.

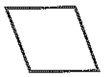
1. Read the problem.
2. Think about how the missing values need to relate to each other. Which values should be greater than other values? Which should be less than other values? Are there multiples that can help you?
3. Fill in the missing values.
4. Read the problem again. Make sure the number relationships make sense.

Data Bank: Whole Numbers						
1	2	6	30	36	61	73

Data Bank: Fractions and Mixed Numbers						
$\frac{1}{3}$	$\frac{3}{4}$	$5\frac{3}{4}$	$8\frac{3}{4}$	9	15	24

Name ______________________ Date ______________ Time ______________

LESSON 5·2 Pattern Blocks and Fractions

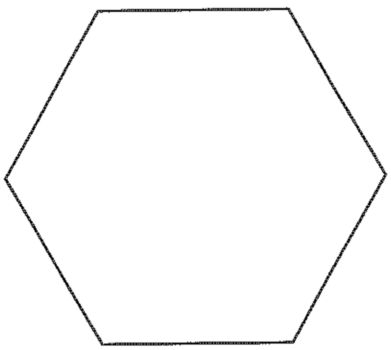
Use your , , and  pattern blocks to solve these problems.

1. Choose one pattern block and give it a value. The block can be worth ONE or a fraction of ONE. Draw the block and record its value.

   The __________ is worth __________.

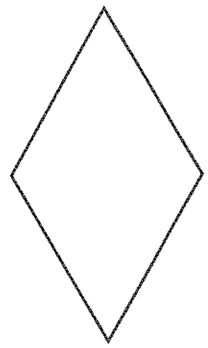
Use the figure you chose in Problem 1 to answer Problems 2–5.

2.



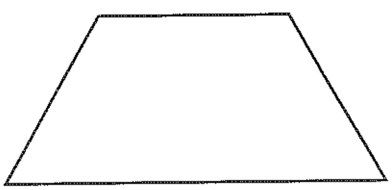
A hexagon is worth __________.

3.



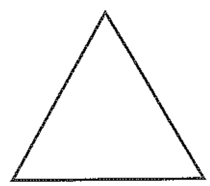
A rhombus is worth __________.

4.



A trapezoid is worth __________.

5.



A triangle is worth __________.

6. In the space below or on another piece of paper, make a design with about 10 pattern blocks. Trace the outline of each block. (Or use the pattern-block shapes on the Geometry Template.)

7. Label each part of your design with a fraction. How much is the design worth? __________

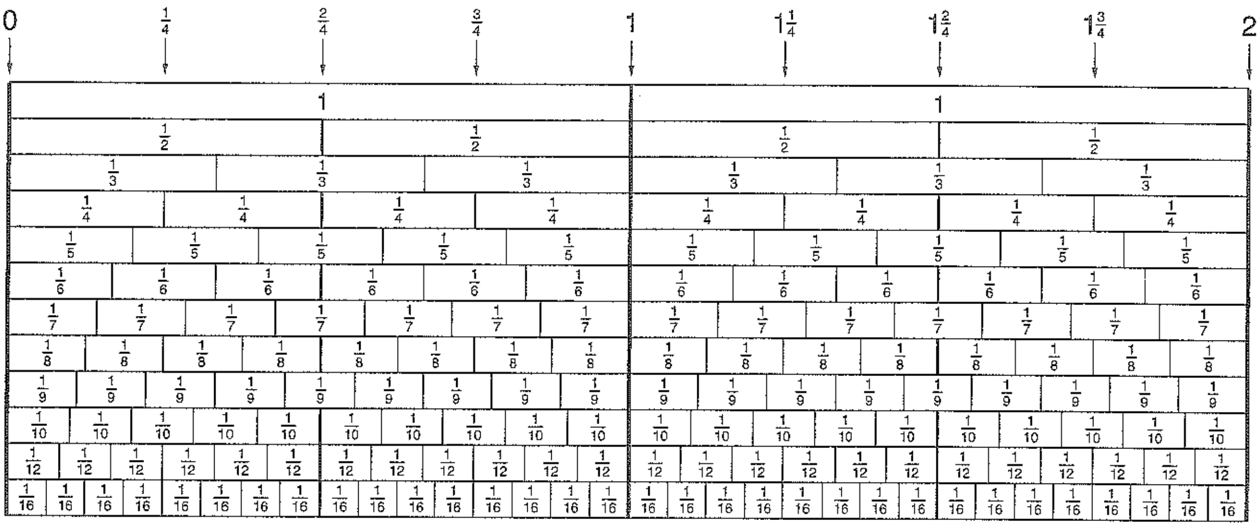
8. Write a number model to show how you calculated the value of the design.

____

Name ______________________ Date ______________ Time ______________

LESSON 5·3

Fraction-Stick Chart



1. Using the Fraction-Stick Chart, list all the fractions that are equivalent to $\frac{1}{2}$. ______________________

a. What pattern do you notice in the numerators for these fractions?

____

____

b. What pattern do you notice in the denominators for these fractions?

____

____

c. Are the patterns complete? ________

d. What fraction is missing that would make the pattern complete? ________

2. Using the Fraction-Stick Chart, list all the fractions that are equivalent to $\frac{1}{3}$.

____

a. What pattern do you notice in these fractions?

____

____

b. Use this pattern to find the next 3 fractions that are equivalent to $\frac{1}{3}$. ______________

Name Date Time

LESSON 5•4

Exploring Simplest Form

A fraction is in simplest form if no other equivalent fraction can be found by dividing the numerator and the denominator by a whole number. For example, $\frac{1}{2}$ is in simplest form.

1. Use the division rule to find equivalent fractions.

a. $\frac{4}{10}$ = ____________

b. $\frac{3}{15}$ = ____________

c. $\frac{4}{20}$ = ____________

d. $\frac{5}{25}$ = ____________

e. $\frac{6}{30}$ = ____________

f. $\frac{30}{36}$ = ____________

g. $\frac{35}{42}$ = ____________

h. $\frac{40}{48}$ = ____________

i. $\frac{45}{54}$ = ____________

j. $\frac{20}{32}$ = ____________

2. List the fractions from your answers in Problem 1 that are in simplest form.

____

3. Find and list the simplest form for the remaining fractions.

____

4. Jamie wants to be able to find the simplest form for any fraction by using the division rule and dividing only once. What should she do?

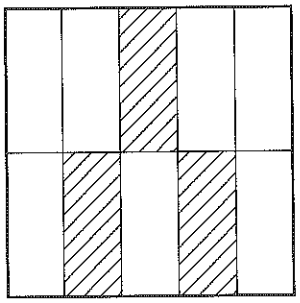
____

Name ____________________ Date ____________ Time ____________

LESSON 5·6 Fractions and Decimals

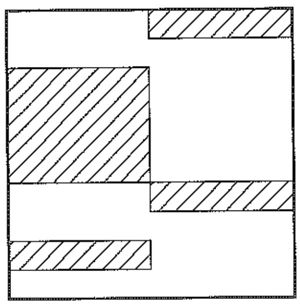
Write the fraction name and decimal name for the shaded portion of each square. Use your transparent 100-grid to check your answer. For Problem 9, color the grid to show a fraction and then write the fraction and decimal name for the shaded portion of the square.

1.



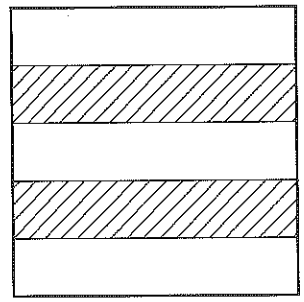
$\frac{3}{10}$ = 0. 3

2.



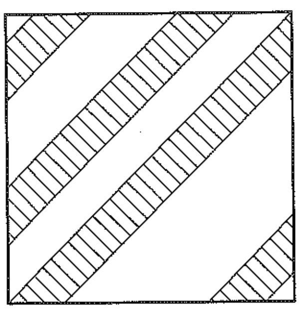
$\frac{\square}{\square}$ = 0.____

3.



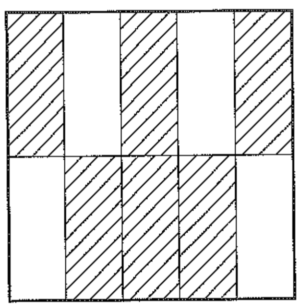
$\frac{\square}{\square}$ = 0.____

4.



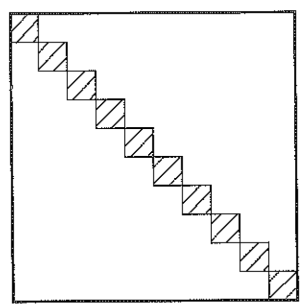
$\frac{\square}{\square}$ = 0.____

5.



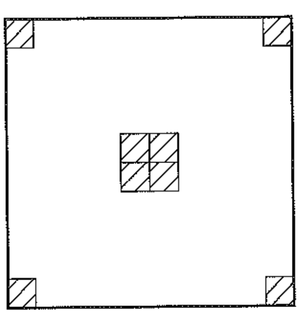
$\frac{\square}{\square}$ = 0.____

6.



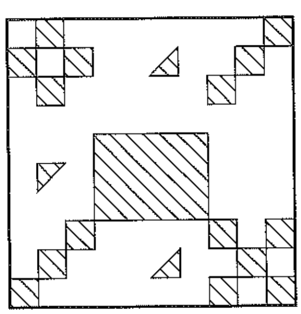
$\frac{\square}{\square}$ = 0.____

7.



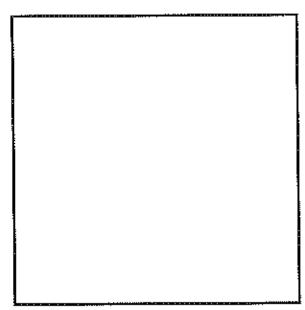
$\frac{\square}{\square}$ = 0.____

8.



$\frac{\square}{\square}$ = 0.____

9.

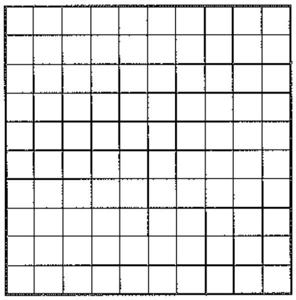


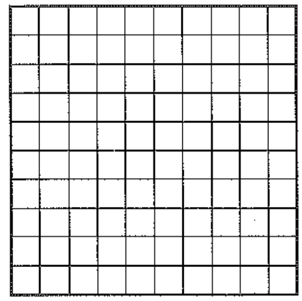
$\frac{\square}{\square}$ = 0.____

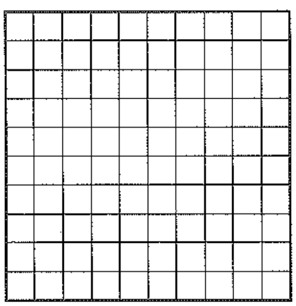
Name Date Time

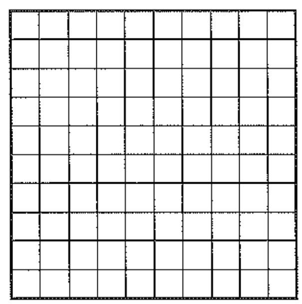
LESSON 5·6

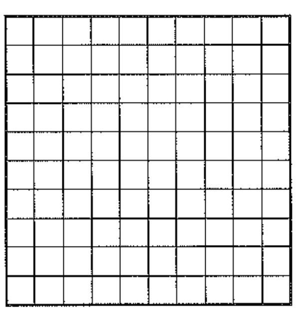
100-Grids

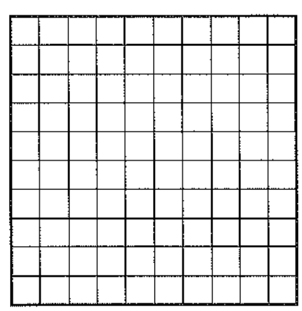












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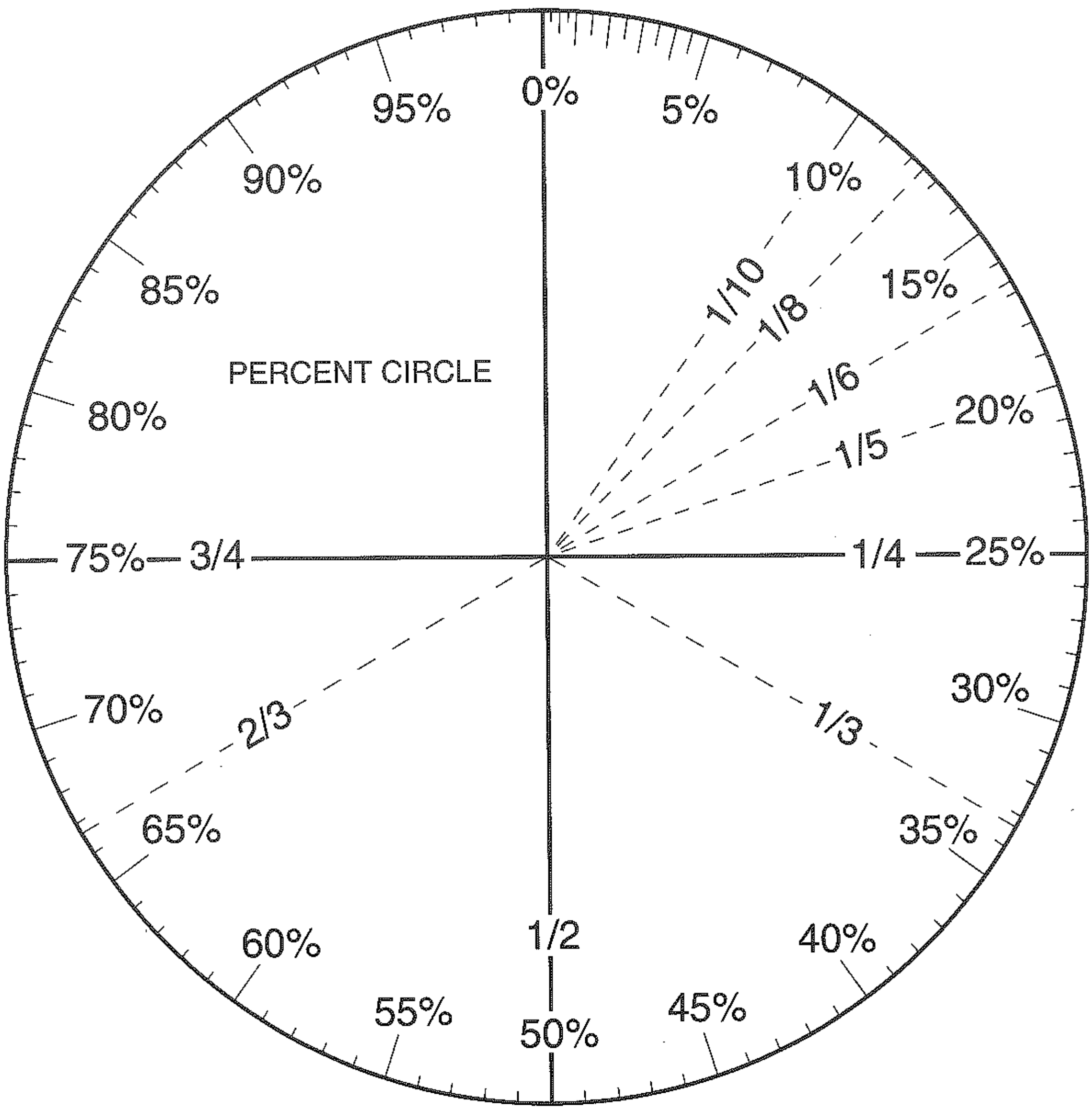
Percent Circle

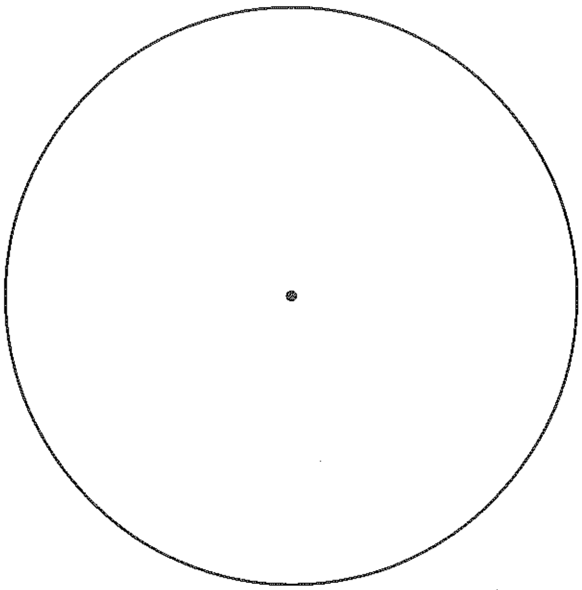


Name ____________________ Date ____________ Time ____________

Measuring Circle-Graph Sections

Use your Percent Circle to find the percent of each piece (sector) within the whole circle.

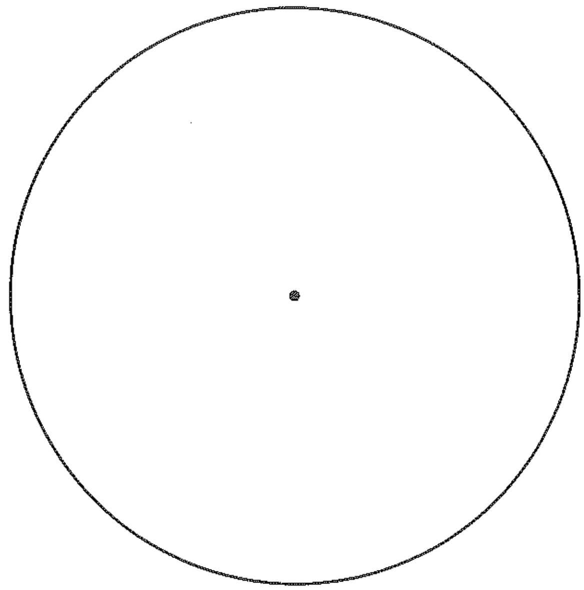
1.



☐ ______ % ☐ ______ %

☐ ______ % ☐ ______ %

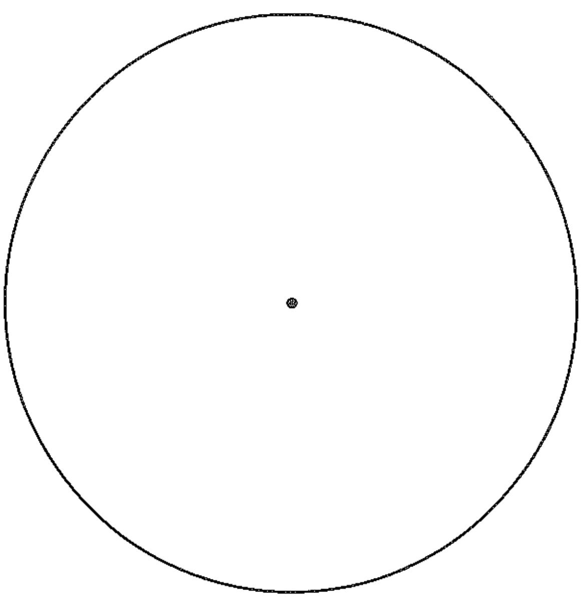
2.



☐ ______ % ☐ ______ %

☐ ______ % ☐ ______ %

3.



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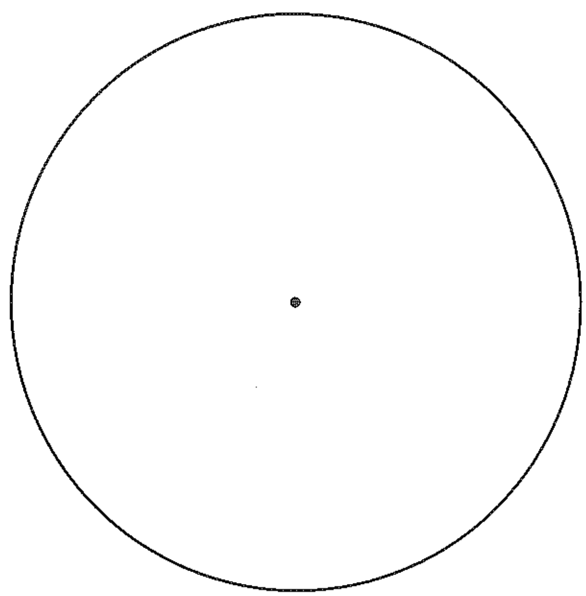
☐ ______ % ☐ ______ %

4.



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Name Date Time

LESSON 5·12

Mathematics Instruction in History

Throughout our nation's history, students have learned mathematics in different ways and have spent their time working on different kinds of problems. This is because people's views of what students can and should learn are constantly changing.

1. *1840s* It was discovered that children could be very good at mental arithmetic, and students began to solve mental arithmetic problems as early as age 4. A school in Connecticut reported that its arithmetic champion could mentally multiply 314,521,325 by 231,452,153 in $5\frac{1}{2}$ minutes.

   After studying arithmetic two hours per day for 7 to 9 years, 94% of eighth graders in Boston in 1845 could solve the following problem. Try to solve it.

   What is $\frac{1}{2}$ of $\frac{1}{3}$ of 9 hours and 18 minutes?

   ______________________ (unit)

   Explain your solution: ______________________

2. *1870s* Many textbooks were step-by-step guides on how to solve various problems. Students were given problems and answers. They had to show how the rules in the textbook could be used to produce the given answers.

   Here is a problem from around 1870 (without the answer) given to students at the end of 6 to 8 years of elementary arithmetic study. Try to solve it.

   I was married at the age of 21. If I live 19 years longer,
   I will have been married 60 years. What is my age now? ______________ (unit)

   Explain your solution: ______________________