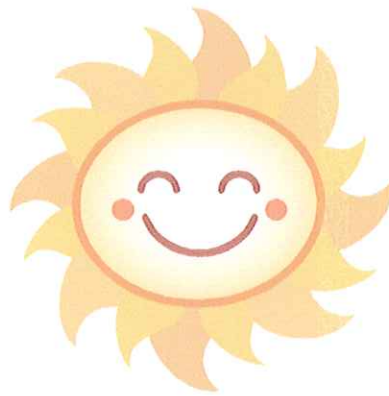


Student Name: _____

Vernon Public Schools Grade 3 Mathematics Summer Review Packet



This optional Summer Math Packet consists of problems that review, maintain, and deepen the skills and concepts learned in 6 strands of mathematics: Operations & Computation; Numeration; Patterns, Functions, & Algebra; Data & Chance; Measurement & Reference Frames; and Geometry.

Most problems will consist of three levels, basic, moderate and challenge /extension. Students are able to work in each strand (problem) at the appropriate level.

Challenge/extension problems are more complex and may require outside data and/or assistance.

Grade Three: Week One

1. a. First use estimation, by rounding to the nearest ten. Then find the exact sum.

$$\begin{array}{r} 1. \quad 43 \\ + 32 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 54 \\ + 17 \\ \hline \end{array}$$

b. First use estimation, by rounding to the nearest hundred. Then find the exact sum.

$$\begin{array}{r} 1. \quad 243 \\ + 182 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 341 \\ + 478 \\ \hline \end{array}$$

*c. Use estimation by rounding to the nearest hundred. Then find the exact sum.

$$\begin{array}{r} 1. \quad 3264 \\ + 2135 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 5320 \\ + 2615 \\ \hline \end{array}$$

2. a. Write the number expressed in word form.

1. four hundred twenty-three _____

2. three thousand five hundred thirty-two _____

b. Write each number shown in word form. Be sure to place a hyphen between the tens and ones.

1. 367 _____

2. 6905 _____

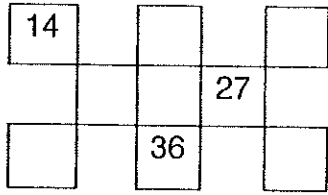
*c. If the number is shown, express the value in word form. If word form is given, write it using numbers.

1. eighteen thousand fifty-six _____

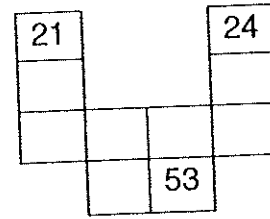
2. 204, 812 _____

3. Complete the boxes in the number grids below.

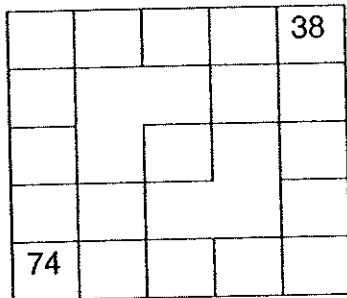
a. 1.



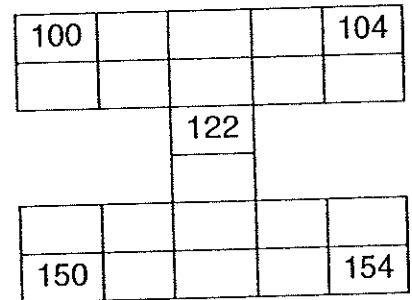
2.



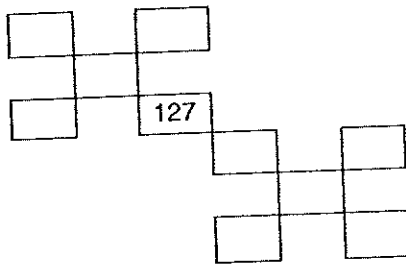
b. 1.



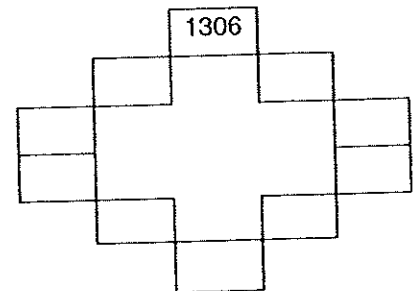
2.



*c. 1.



2.



4. a. Keep track of how much time (in minutes) you spend reading each day for 7 days. Record your data in the chart below.

day	date	time spent reading minutes
Sunday		minutes
Monday		minutes
Tuesday		minutes
Wednesday		minutes
Thursday		minutes
Friday		minutes
Saturday		minutes

b. Use the data in the table above to answer these questions.

1. On which day did you read the most? _____
2. On which day did you read the least? _____
3. How many total weekday minutes were spent reading? _____
4. Did you spend more minutes reading on the weekend or during the week? How many more or fewer minutes? _____

5. a. Measure each line segment to the nearest inch.

1. _____
2. _____

b. Measure each line segment to the nearest half-inch.

1. _____
2. _____

Measure each line segment to the nearest quarter-inch.

3. _____
4. _____

*c. Use a straight edge to draw a line segment for each length given.

1. 3 inches

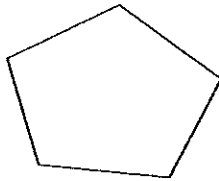
2. 5 1/2 inches

3. 8 1/4 inches

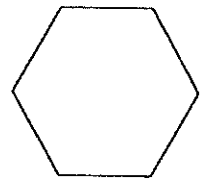
4. 11 3/4 inches

6. a. Name the following 2-dimensional shapes.

1.



2.



b. Draw the following 2-dimensional shapes.

1. rectangle

2. trapezoid

*c. What is a polygon? Draw an example of a figure that is a polygon. Draw an example of a figure that is not a polygon.

Grade Three: Week Two

1. a. Estimate the sums. Then find the exact sums.

$$\begin{array}{r} 1. \quad 51 \\ + 33 \\ \hline 26 \end{array}$$

$$\begin{array}{r} 2. \quad 137 \\ + 59 \\ \hline \end{array}$$

b. Estimate the sums. Then find the exact sums.

$$\begin{array}{r} 1. \quad 398 \\ + 137 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 443 \\ + 218 \\ \hline \end{array}$$

*c. Estimate the sums. Then find the exact sums.

$$\begin{array}{r} 1. \quad 3671 \\ + 2916 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 4126 \\ 1009 \\ + 95 \\ \hline \end{array}$$

2. a. Circle the number that has the greater value.

1. 4,021 3,987

2. 39,617 39,176

b. Use $<$, $>$, or $=$ to compare the following pairs of numbers.

1. 7123 7213

2. 48,622 48,621

3. 381,986 389,186

*c. Place the five numbers shown below in order from greatest to least.

7,603 31,670 31,706 31,076 30,167

3. a. Circle the math expressions that are equal in value to the number in the box.

1.

49

- $7 * 7$
- one less than 50
- (q)(d)(d)(n)
- $31 + 18$
- $(7 * 6) + 7$

2.

300

- $150 + 150$
- $30 * 10$
- $200 * 2$
- $1000 - 600$
- $426 - 126$

b. Write 5 math expressions that are equivalent to the value in the box.

1.

(q)(d)(n)(p)

2.

III III III
 III III

*c. Each math expression below is NOT equivalent to the box above it. Change ONE digit in each expression to make its value equivalent to the number in the box above it.

1.

54

- $6 * 7$
- $100 - 56$
- $108 \div 3$
- $18 * 4$
- $27 + 37$

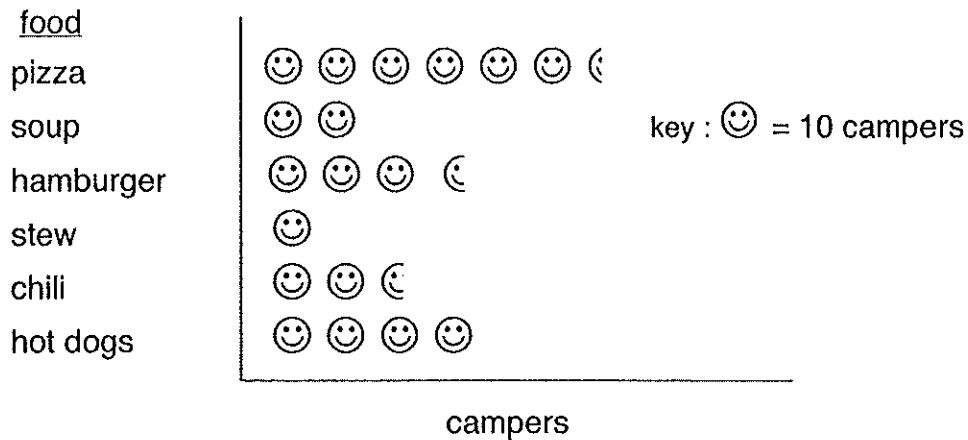
2.

180

- $90 * 3$
- $80 + 110$
- $198 - 16$
- $360 \div 3$
- $60 * 2$

4. a. Use the pictograph to answer the questions.

Favorite Foods of Campers at Camp Hidden River



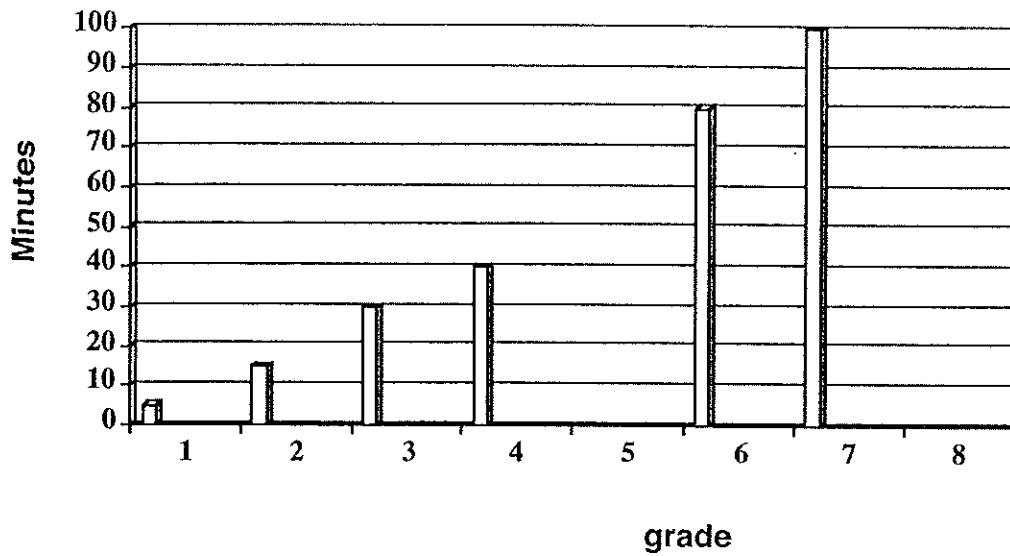
1. What was the most popular food? How many campers voted for it?

2. What was the least popular food? How many campers voted for it?

3. If pizza was NOT an option, and the next meal was Camper's Choice, predict which food would most likely be selected by the campers? _____
4. If the cooks at Camp Hidden River needed to eliminate 2 foods from the menu to reduce food waste, which 2 do you think they would choose and why?

b. Use the incomplete graph to answer the questions below.

Amount of Daily Homework.



1. Which would be a reasonable prediction for the amount of homework a fifth grader might receive?
a. 40 min. b. 60 min. c. 80 min. d. 90 min.
2. Which would be a reasonable prediction for the amount of homework an eighth grader might receive?
a. 80 min. b. 100 min. c. 115 min. d. 150 min.
3. What pattern do you observe in the data represented in this bar graph?

5. a. Measure the following line segments to the nearest centimeter.

1. C _____ D

2. G _____ H

b. Measure the following line segments to the nearest millimeter.

1. C _____ D

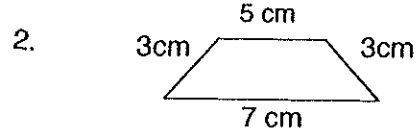
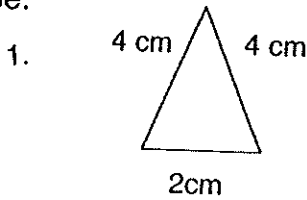
2. G _____ H

*c. Complete the following measurement conversions.

1. ____ mm = 1 cm

2. 40 mm = ____ cm

6. a. List the number of vertices and sides for each polygon below. Then name the shape.



1. Vertices = _____ Sides = _____ Shape = _____

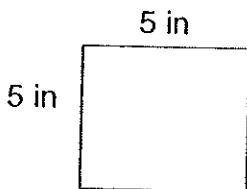
2. Vertices = _____ Sides = _____ Shape = _____

b. Draw and name each 2-dimensional shape with the following characteristics:

1. a shape with 5 sides of equal length and 5 vertices.

2. a shape with 3 vertices and 3 sides of all different lengths

*c. Give at least 4 names for this 2-dimensional shape.



Grade Three: Week Three

1. a. Estimate the difference. Then find the exact difference.

1.
$$\begin{array}{r} 27 \\ - 12 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 47 \\ - 29 \\ \hline \end{array}$$

b. Estimate the differences. Then find the exact difference.

1.
$$\begin{array}{r} 381 \\ - 53 \\ \hline \end{array}$$

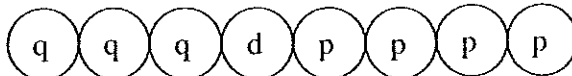
2.
$$\begin{array}{r} 694 \\ - 318 \\ \hline \end{array}$$

*c. Create a subtraction problem according to the guidelines given.

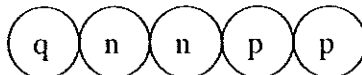
1. numbers: two-digit – two-digit
estimated difference: 40
exact difference: 37

2. a. Match the money amounts to the appropriate coin combinations.

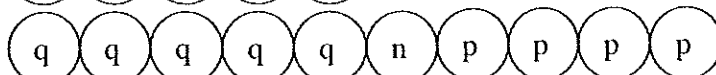
37 ¢



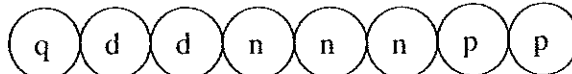
\$0.62



89 ¢

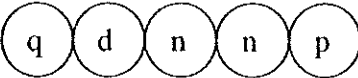


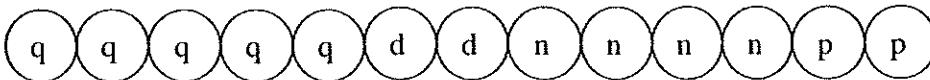
\$1.34



2. b. Write the money amount, in both cents and dollars-and-cents notation for each combination. An example has been done for you.

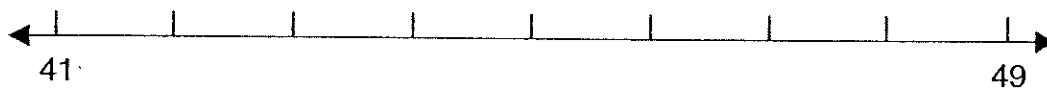
	<u>coin combination</u>	<u>cent</u>	<u>dollars-and-cents</u>
ex.		19 ¢	\$0.19

1. 

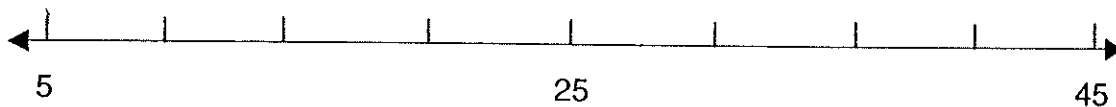
2. 

- *c. Create at least 3 different coin combinations for each money amount given.
1. \$1.14

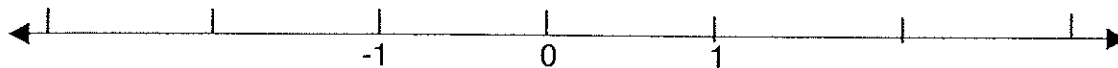
3. a. Complete the following number lines.



b.



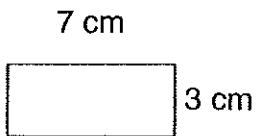
c.



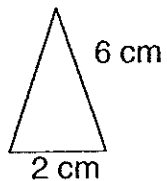
4. a. Use the tally chart to answer the questions below.

student name	number of books read over summer
Tom	III I
Angie	III III I
Deon	III III II
Kelsey	III III
Matt	III III III

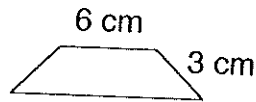
- Who read the greatest number of books over the summer, and how many books did s/he read? _____
- Who read the fewest number of books over the summer, and how many did s/he read? _____
- Who read twice as many books as Tom? _____
- Who read five fewer books than Matt? _____
- a. Calculate the perimeter of each polygon shown.



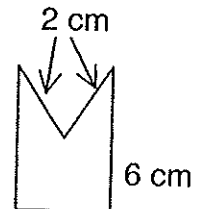
rectangle _____



isosceles triangle _____



trapezoid _____



chevron _____

b. Calculate the perimeter of each polygon described. Draw and label each shape as well.

1. a square with one side known to be 7 inches long

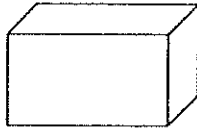
2. a rectangle where the length is twice as long as the width and the width equals 14 inches

6. a. Name the following 3-dimensional shapes.

1.



2.



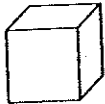
3.



b. A polyhedron is a geometric solid (3-dimensional) whose faces are all polygons. There are no curved surfaces on a polyhedron.

1. Name each polyhedron below and list the characteristics of each to complete the table.

Polyhedron	Name	Number Of Vertices	Number of edges	Number of faces	Shape of faces
------------	------	--------------------	-----------------	-----------------	----------------



Grade Three: Week Four

1. Solve the number story.

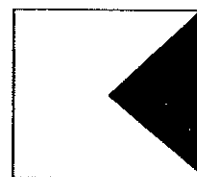
a. Jennifer's mom treated her and a friend to lunch at their favorite fast-food restaurant. Jennifer's meal cost \$4.89, her friend's meal came to \$4.67 and Jennifer's mom got a combo meal for \$5.39 (all prices included tax.). If Jennifer's mom paid with a \$20 bill, how much change did she receive?

2. a. Write the fraction for the shaded part of each whole.

1.



2.



b. What fraction of the following sets are shaded?

1.



2.



3. a. Skip count aloud to an adult, counting by . . .

1. twos – from 2 to 50

2. fives – from 5 to 150

3. tens – from 10 to 300

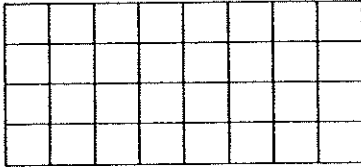
b. Skip count aloud and write the sequence of numbers, counting by . . .

1. threes – from 3 to 90

5. a. Calculate the area of the shapes below. Be sure to use the appropriate labels.

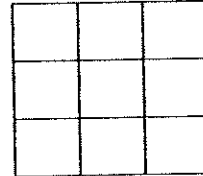
1.

cm



2.

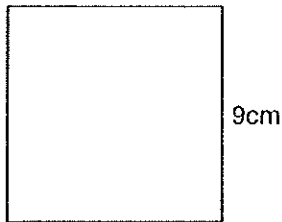
inches



b. Calculate the area of the shapes below. Be sure to use the appropriate labels.

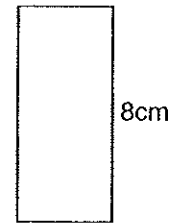
1.

9cm



2.

3 cm



6. Find at least 1 example of each 3-dimensional solid in or around your home.

a. 1. cube

2. cylinder

3. sphere

b. 1. rectangular prism

*c. 1. cone

2. triangular prism

Grade Three: Week Five

1. Extend the basic facts.

a. 1. $7 + 8 = 15$ $70 + 80 = \underline{\quad}$ $700 + 800 = \underline{\quad}$	2. $6 + 5 = \underline{\quad}$ $60 + 50 = \underline{\quad}$ $600 + 500 = \underline{\quad}$
--	--

b. 1. $6 - 2 = \underline{\quad}$ $60 - 20 = \underline{\quad}$ $600 - 200 = \underline{\quad}$	2. $8 - 3 = \underline{\quad}$ $80 - 30 = \underline{\quad}$ $800 - 300 = \underline{\quad}$
---	--

c. 1. $4 * 8 = \underline{\quad}$ $40 * 8 = \underline{\quad}$ $4 * 80 = \underline{\quad}$ $40 * 80 = \underline{\quad}$ $40 * 800 = \underline{\quad}$	2. $3 * 9 = \underline{\quad}$ $3 * 90 = \underline{\quad}$ $30 * 9 = \underline{\quad}$ $30 * 90 = \underline{\quad}$ $30 * 900 = \underline{\quad}$
--	---

Describe any patterns you found in part c.

2. a. Cross out any values not equal to the amount shown in the box.

1.

7 dimes

- 70 pennies
- 15 nickels
- 30 ¢ less than \$1.00
- 10 nickels + 2 dimes
- 5 nickels + 40 pennies

2.

3/4

- $1/4 + 1/4 + 1/4$
- 6/8
- 9/12
- 30%
- 1

b. Write at least 5 equivalent names for the value shown in the box.

1.

\$4.00

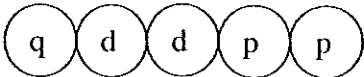
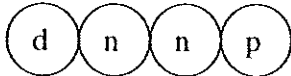
*c. Complete the equivalent fractions for the fraction given.

1. $1/2 = 2/\underline{\quad}, 3/\underline{\quad}, \underline{\quad}/8, \underline{\quad}/10, 6/\underline{\quad}$

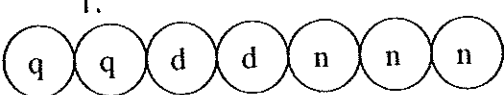
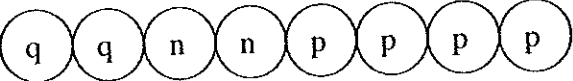
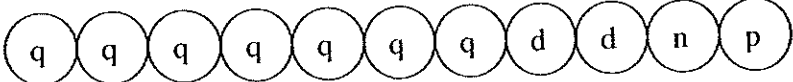
3. Complete following number sequences according to the rule given, moving from left to right; or, if the sequence is complete, give the missing rule.

- a. 1. rule: add 6 0, ____, 12, ____, ____, ____, 36, ____
 2. rule: subtract 7 49, ____, ____, 28, ____, ____, ____, ____
 3. rule: _____ 1, 3, 9, 27, 81, 243, 729
- b. 1. rule: add 14 11, ____, ____, 53, ____, 81, ____, ____
 2. rule: subtract 11 99, ____, ____, ____, 55, ____, ____, ____
- *c. 1. rule: divide by 2 2000, ____, ____, ____, ____, ____, ____

4. a. Write the following sums in cents and dollars-and-cents notation.

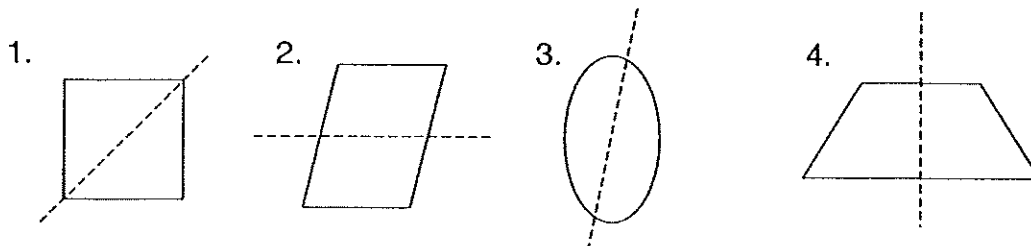
1.  +  _____
2. 79 ¢ + \$1.82 _____

b. Write the following differences in cents and dollars and cents notation.

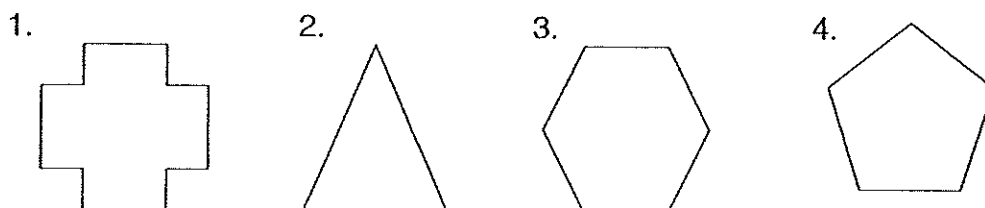
1.  - 
2. \$4.42 - 

5. A line of symmetry is a line upon which a shape can be folded so that the two sides match up exactly.

a. Tell whether each line shown is a line of symmetry.



b. Draw as many lines of symmetry as you can for each shape.



Grade Three: Week Six

1. a. Complete the basic facts.

1. $3 * 7 =$

11. $2 * 8 =$

2. $4 * 8 =$

12. $6 * 3 =$

3. $6 * 9 =$

13. $7 * 5 =$

4. $7 * 4 =$

14. $3 * 9 =$

5. $8 * 9 =$

15. $5 * 9 =$

6. $6 * 7 =$

16. $24 \div 6 =$

7. $8 * 3 =$

17. $42 \div 7 =$

8. $4 * 6 =$

18. $72 \div 9 =$

9. $9 * 7 =$

19. $40 \div 8 =$

10. $6 * 8 =$

20. $35 \div 7 =$

b. Estimate the products by rounding to the nearest 10.

ex.
$$\begin{array}{r} 23 \\ * 17 \\ \hline \end{array}$$

estimate : $20 * 20 = 400$

1.
$$\begin{array}{r} 46 \\ * 31 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 59 \\ * 42 \\ \hline \end{array}$$

*c. Estimate the quotients by rounding to the nearest 10.

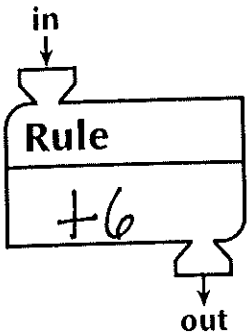
ex. $81 \div 42 =$ estimate: $80 \div 40 = 2$

1. $63 \div 21 =$

2. $32 \div 11 =$

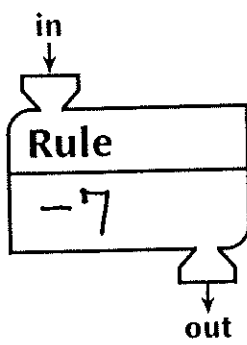
3. a. Complete the function boxes.

1.



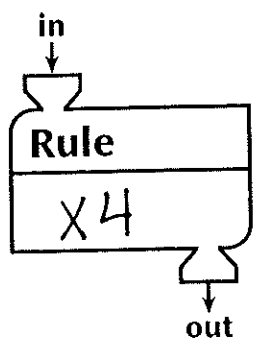
in	out
3	
	35
	7
28	
	91

2.



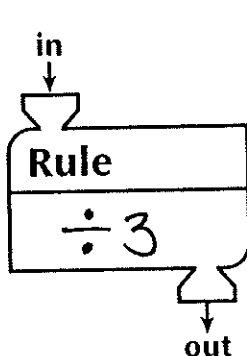
in	out
48	
	33
	0
102	
	18

3.



in	out
0	
7	
	16
20	
	100

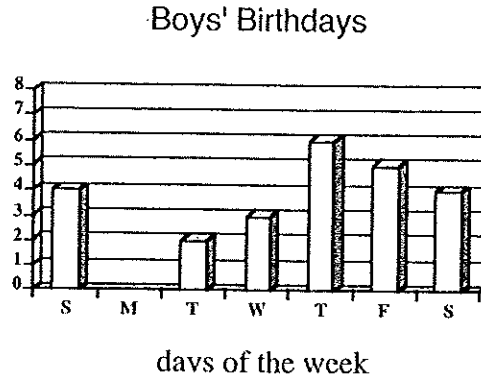
4.



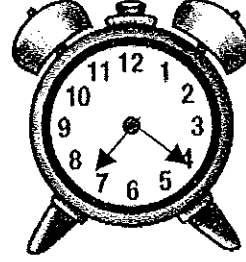
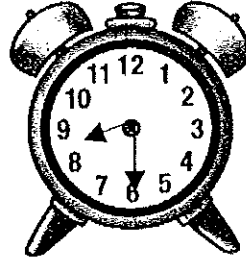
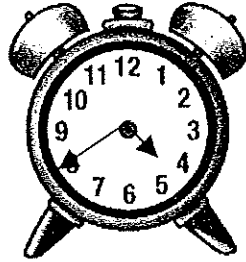
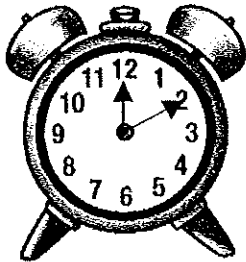
in	out
	4
27	
	10
90	
	11

4. a. Mrs. Steven's class collected data about the day of week on which students were born. The class divided into boys and girls. The girls chose to display their data on a tally chart while the boys created a bar graph. Use both to compare the data and answer the questions on the following page.

Girl's Birthdays	
Day of Week	Number of Girls
S	
M	
T	
W	
T	
F	
S	



- Does Mrs. Steven's class have more girls or boys? _____
- How many students were born on a Tuesday? _____
- What was the most popular day on which to be born? _____
- On which day of the week were no boys born? _____
- a. Write the time below each clock.



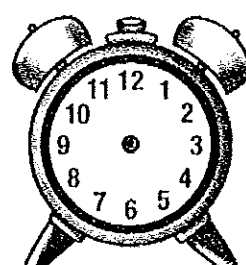
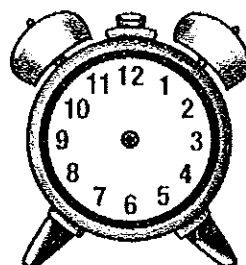
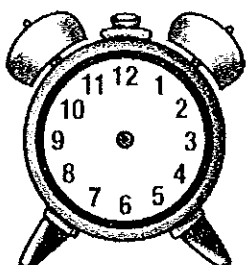
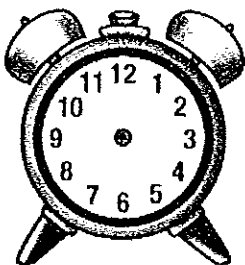
- b. Draw clock hands to show the time given.

1:55

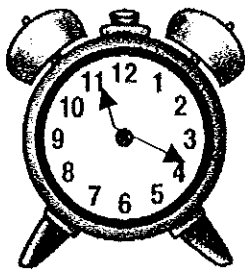
4:25

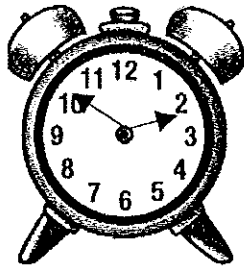
6:05

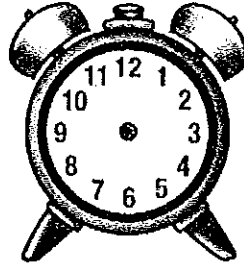
10:35



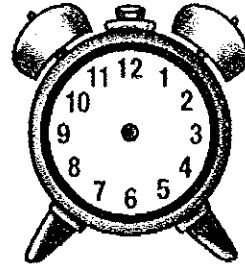
*c. Write the times below each clock with hands, or draw clock hands to show the time given.







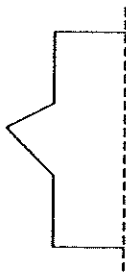
9:07



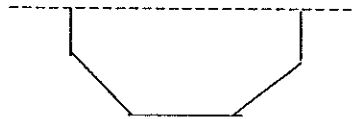
3:41

6. a. Draw the other half of each symmetric shape below.

1.

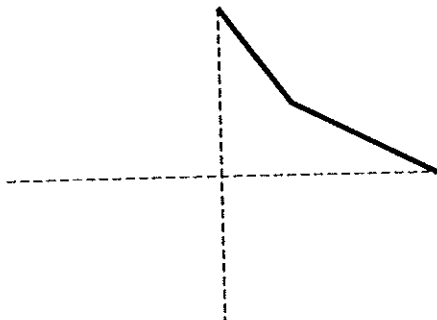


2.



*c. There are 2 lines of symmetry. Complete the figure.

1.



Grade Three: Week Seven

1. Use each of the digits given exactly once to create numbers.

a. Use the digits . . . to create the smallest number & largest number

1. 7, 1, 4 _____ _____

2. 9, 2, 3 _____ _____

3. 8, 6, 1, 5 _____ _____

4. 7, 9, 5, 2 _____ _____

b. Use each of the digits exactly once to create 6 different 3-digit numbers. Then put the numbers in order from least to greatest.

1. 6, 2, 5

2. 9, 7, 4

3. a. Complete the following number sentences, making them true.

1. $7 + 4 = \square$

3. $8 * \square = 56$

2. $16 - \square = 7$

4. $\square \div 3 = 9$

b. Insert the missing number or sign to make the following number sentences true.

1. $17 \square 38 = 55$

3. $12 * \square = 48$

2. $9 \square 3 = 6$

4. $72 \square 9 = 8$

*c. Use the numbers and operation signs given to make a true number sentence. (Each math sentence will include an equal sign as well). There may be more than one solution.

numbers

math sentences

1. 4, 7, 16, 19 _____ + _____ - _____ = _____

2. 2, 9, 3, 6 _____ * _____ | _____ = _____

4. a. The following sets of data show spelling test scores earned by 3 students in Mr. Mathew's reading class. Each test consisted of 20 possible points.

		<u>scores</u>				
<u>Student</u>	<u>week</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Malcolm		17	19	18	19	19
Jeff		20	20	19	20	18
Andrew		16	15	17	18	19

Use the data to answer the questions below.

1. What was the minimum score earned? _____

2. What was the range in the scores received? _____

b. What was the mode of the scores? _____

*c. Based on these scores, rank the 3 boys in order from strongest to weakest speller.

6. Look in and around your home to find symmetrical and nonsymmetrical designs. Draw 1 example of a design that has . . .

a. no line of symmetry

b. one line of symmetry

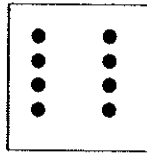
*c. two or more lines of symmetry

Color your designs and show them to an adult, explaining what you know about symmetry.

Grade Three: Week Eight

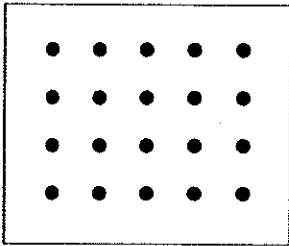
1. a. Use the figures below to show division. Then write a division number sentence for each figure. An example has been done for you.

ex.



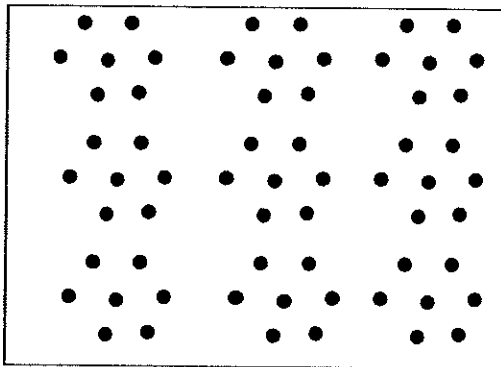
This box has 8 dots.
Divide the box into 2 equal groups.
Each group has 4 dots.
Math. sentence: $8 \div 2 = 4$

1.



This box has ____ dots.
Divide the box into 4 equal groups.
Each group has ____ dots.
Math sentence: _____

2.



This box has ____ dots.
Divide the box into
9 equal groups.
Each group has ____ dots.
Math sentence:

b. Draw a figure to demonstrate each division math sentence below.

1. $32 \div 8 = 4$

2. $24 \div 4 = 6$

*c. Solve

1.

$$5 \overline{) 75}$$

2. Complete the math sentences below.

a.

1. $6 + \underline{\quad} = 10$

5. $80 + \underline{\quad} = 100$

2. $7 + \underline{\quad} = 10$

6. $10 + \underline{\quad} = 100$

3. $2 + \underline{\quad} = 10$

7. $30 + \underline{\quad} = 100$

4. $9 + \underline{\quad} = 10$

8. $40 + \underline{\quad} = 100$

b.

1. $44 + \underline{\quad} = 50$

2. $61 + \underline{\quad} = 70$

*c.

1. $640 + \underline{\quad} = 700$

2. $720 + \underline{\quad} = 800$

3. Use T or F to show whether each mathematical expression is true or false.

a.

1. $17 + 34 = 41$

2. $81 - 47 = 34$

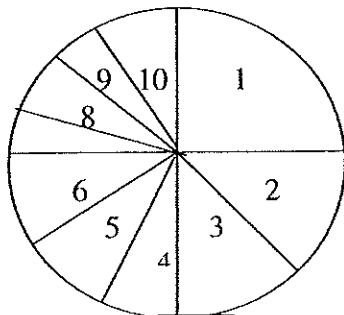
b.

1. $3 * 8 = 6 * 4$

2. $6 * 9 = 7 * 8$

4. Not all games offer an equal chance of winning. Answer the following questions about 3 carnival games.

Spinner

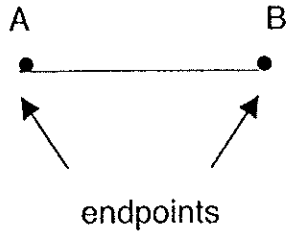


To win a prize, the spinner must land on the number you choose.

1. To give you the best chance of winning, which number would you pick? Why?

2. Which number(s) would give you the least chance of winning? Why?

6.



This figure shows **line segment** AB.

It may be written as \overline{AB} or \overline{BA} .



This figure shows **line** AB.

It may be written as $\longleftrightarrow AB$ or $\longleftrightarrow BA$.



This figure shows **ray** AB.

It may be written as \overrightarrow{AB}

a. Construct (draw) the following:

1.

\overline{CD}

2.

$\longleftrightarrow EF$

3.

\overrightarrow{HG}

Grade Three: Week Nine

1. a. Serena and 2 friends wanted to see a movie. The first movie of the day is offered at a bargain ticket price of \$1.00, the matinee price is \$5.00 per ticket, and the evening ticket costs \$7.00.

1. How much will the girls spend altogether if they can see the earliest show of the day? _____

2. What is the total cost for the girls to go the matinee? _____

3. How much will the girls spend all together on the movie if they go in the evening?

2. a. Write the place value names in the appropriate blanks, choosing from the list of place values below.

hundredths ones thousandths tenths

_____ . _____

b. Write each expression in number form.

1. twenty-eight and four tenths _____

2. one and thirty-six hundredths _____

*c. Write each expression in word form.

1. 641.08 _____

Grade Three: Week Ten

1. Draw a dot array to show the following multiplication problems. Some have been done for you.

a. 1. $1 * 1 = 1$

•

2. $2 * 2 = \underline{\quad}$

• •
• •

3. $3 * 3 = 9$

4. $\underline{\quad} * \underline{\quad} = 16$

• • • •
• • • •
• • • •
• • • •

5. $5 * 5 = \underline{\quad}$

6. $\underline{\quad} * \underline{\quad} = 36$

• • • • • •
• • • • • •
• • • • • •
• • • • • •
• • • • • •
• • • • • •

b. 7. $7 * 7 = 49$

8. $\underline{\quad} * \underline{\quad} = 64$

9. $9 * 9 = \underline{\quad}$

10. $10 * 10 = 100$

*c. 11. What do you notice about the factors and the arrays in these problems?

2. When decimals are added or subtracted the numbers must be lined up according to place value (and by decimal point) to result in a correct answer. Add or subtract.

a.

1.
$$\begin{array}{r} 2.4 \\ + 6.1 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 19.6 \\ + 8.7 \\ \hline \end{array}$$

b.

1.
$$\begin{array}{r} 7.67 \\ - .25 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 42.85 \\ - 9.99 \\ \hline \end{array}$$

*c. 1. $16.31 + 39.2 + 87.06$

3. a. Complete the number grid below.

261						267			
		283						289	
				295					

b. Use the grid above to answer the following questions.
Describe what happens when. . .

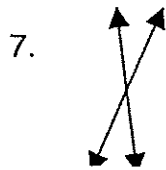
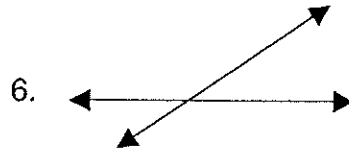
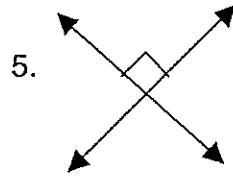
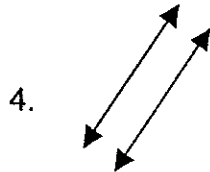
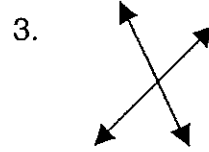
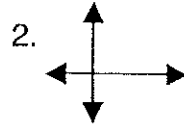
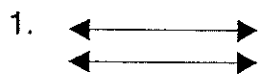
1. you move one space to the right? _____
2. you move one space to the left? _____
3. you move one space up? _____
4. you move one space down? _____

5. Refer to the following list of school supplies available at the school store and their prices to answer the questions below.

<u>supplies</u>	<u>cost</u>
pencil	10 ¢
pen	15 ¢
ruler	\$1.00
notebook	\$1.25
loose leaf paper	\$1.50
eraser	50 ¢
folder	25 ¢
glue	\$1.00

a. If you buy a pen, a pencil, two notebooks, an eraser, and two folders and pay with four dollar bills, how much change will you receive?

6. If lines are parallel nor perpendicular, label "P." If they are intersecting lines, label "I."





Rulers

