

Summer Math Packet

Manchester Public Schools

Given to Grade 3 in June

Going into Grade 4

2016



Name _____

School _____

(Parent Signature)



Standard 3.OA Operations and Algebraic Thinking

Use the four operations with whole numbers to solve problems.

Solve the following problems and show all your work.

1. $39 + 97 =$ _____

2. $176 - 58 =$ _____

3. $7 \times 30 =$ _____

4. $36 \div 4 =$ _____

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5. Devon purchased 5 packages of muffins. Each package contained 3 muffins. How many muffins did Jim purchase? _____ \times _____ = _____ (Draw a model, picture, or array to show your thinking).



6. At the grocery store 18 apples are arranged in rows with 6 apples in each row. How many rows will there be?

a. $18 \div \underline{\quad} = \underline{\quad}$ (Draw a model, picture, or array to show your thinking).

b. Complete the related number sentence below that you can use to check your work.

$$\underline{\quad} \times \underline{\quad} = 18$$

7. Marcel the monkey loves bananas. Marissa, his trainer, has 24 bananas.

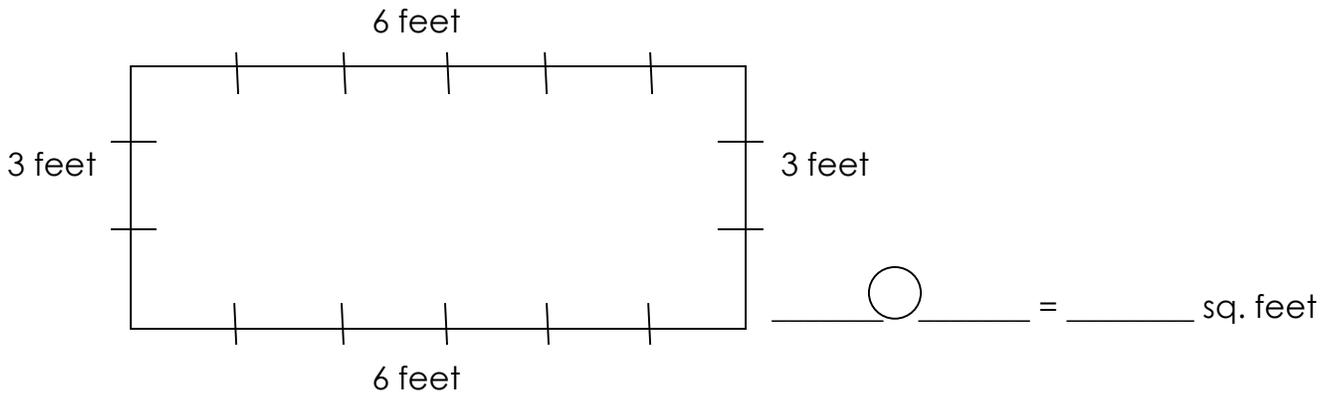
If she gives Marcel 4 bananas each day, how many days will the bananas last?

Draw a picture, chart or diagram to show your math thinking. Then write a number sentence to show your answer.



8. A red hat costs \$18 and that is 3 times as much as a blue hat costs. How much does a blue hat cost? $\$18 \div \underline{\hspace{2cm}} = \$\underline{\hspace{2cm}}$ **OR** $\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \18

9. Sherri planted a garden that is a shaped like a rectangle with sides that are 3 feet and 6 feet long. What is the area of Susan's garden in square feet?



10. Solve each problem. Then write one related multiplication fact and one related division fact that can help you check your answer.

a. $3 \times 5 =$ _____ \times _____ = _____ _____ \div _____ = _____

b. $7 \times 4 =$ _____ \times _____ = _____ _____ \div _____ = _____

c. $8 \times 6 =$ _____ \times _____ = _____ _____ \div _____ = _____



Standard 3.NBT Number and Operations in Base Ten

Use place value understanding to do multi-digit arithmetic.

What number can be represented by

1. 4 hundreds and 6 tens and 13 ones? _____

2. $200 + 10 + 5$? _____

Use place value to write this numbers another way.

3. 726 _____

4. Complete the table and explain the addition pattern.

addend	addend	sum
0	20	20
1	19	20
2	18	20
3	17	20
4	16	20



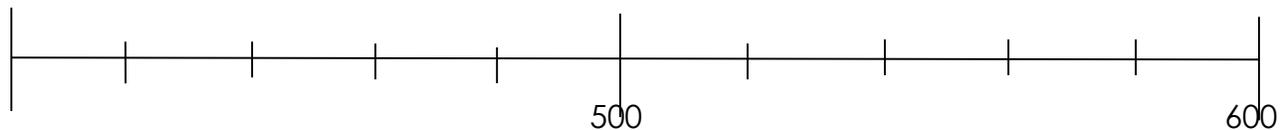
addend	addend	sum
		20
20	0	20

Explain the addition pattern. Write your answer in complete sentences.



5. What is 574 rounded to the nearest hundred? _____

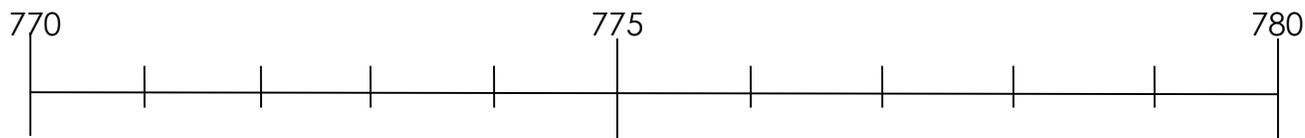
Show and explain your answer using the number line.



Explain:

6. What is 773 rounded to the nearest ten? _____

Show or explain your answer using the number line.



Explain:

7. Solve this problem. Show or explain two ways you can find the answer.

$$\begin{array}{r} 527 \\ - 284 \\ \hline \end{array}$$



8. Solve this problem. Show or explain two ways you can find the answer.

$$\begin{array}{r} 326 \\ +416 \\ \hline \end{array}$$

What number is missing in the number sentence? _____ How do you know?

9. $139 + \underline{\quad\quad} = 436$

What number is missing in the number sentence? _____ How do you know?

10. $\underline{\quad\quad} - 459 = 286$

11. Sharon read 835 pages during her summer reading challenge. She was only required to read 492 pages. How many extra pages did Sharon read beyond the challenge requirements?

Show or explain how you found your answer.



12. On Monday, Julissa picked 137 apples to be sold at the orchard. On Tuesday, she picked 284 apples. How many apples did Julissa pick during both days?

Show or explain how you found your answer.

13. Javier earned 231 points at school last week. This week he earned 79 points. If he uses 60 points to earn free time on a computer, how many points will he have left?

Show or explain how you found your answer.

Explain the number pattern.

14. Jayson is counting by fives. He started at the number 17. Will he say the number 70?

Show or explain how you found your answer.



Explain the number pattern.

15. There are 2 chairs in the first row, 3 chairs in the second row, 5 chairs in the third row, 8 chairs in the fourth row, and 12 chairs in the fifth row. How many chairs will there be in the eighth row? Show or explain how you found your answer.

Solve these problems. Then use place value to show or explain how you found your answer.

16. $5 \times 40 =$

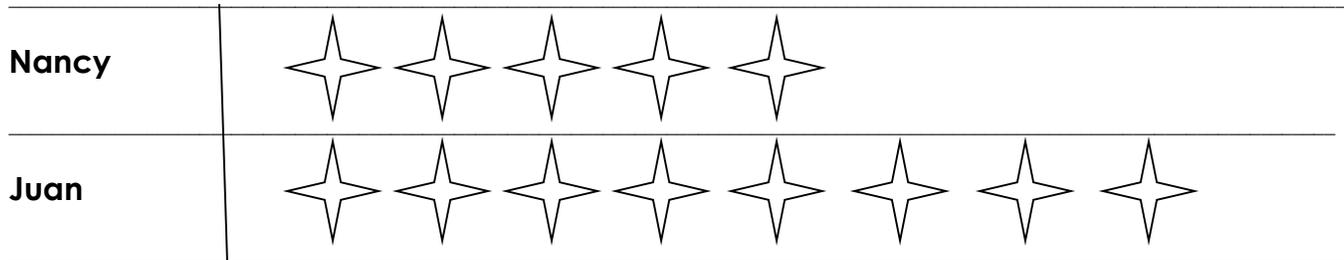
17. $9 \times 80 =$



Standard 3MD Measurement and Data.

Represent and interpret data.

Number of Books Read



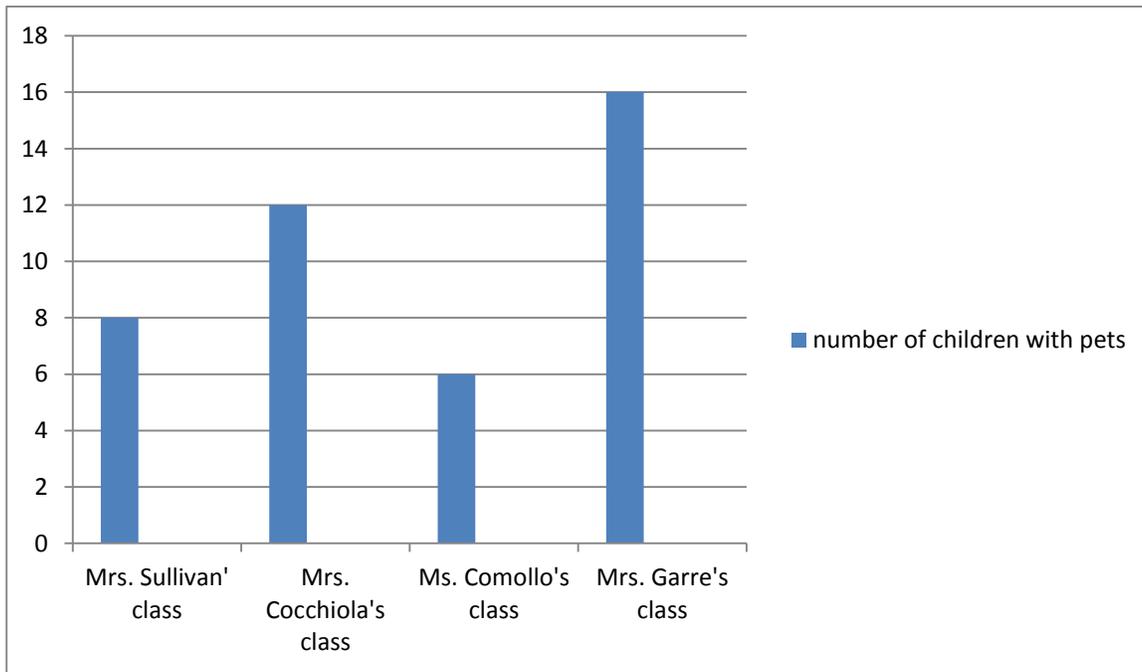
 = Five books

1. How many more books did Juan read than Nancy? Explain how you know and write a number sentence to show how to prove your answer.



2. The third grade students at Bowers School took a survey to see how many students in third grade had pets. Below is a graph of the data they collected to show how many students had pets in each third grade class. Use the graph to answer the question.

Third Grade Students with pets



- How many more students had pets in Mrs. Garre's class than in Mrs. Sullivan's class? Write a number sentence to show your answer.

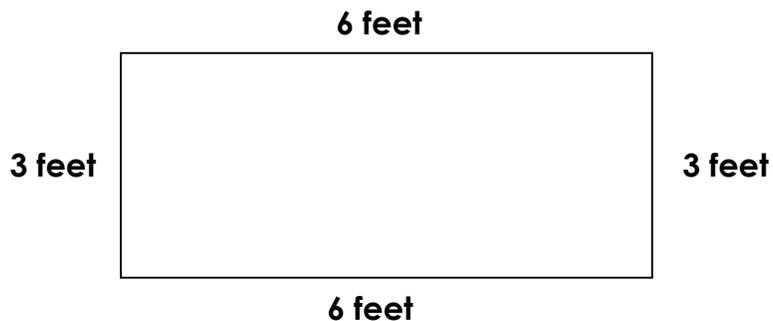
- How many fewer students had pets in Mrs. Cocchiola's class than in Mrs. Sullivan's and Ms. Comollo's classes put together? Write the number sentences you used to find your answer.



Solve problems involving measurement and estimation.

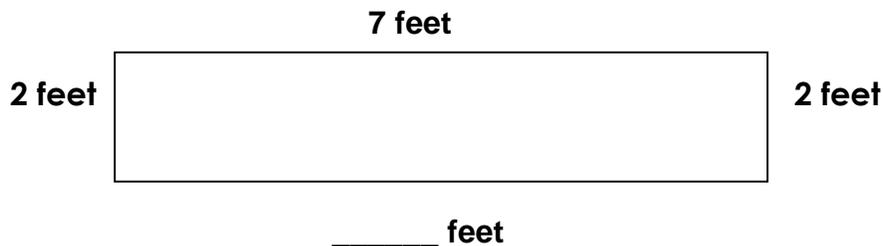
3. Find the perimeter of the rectangle. Explain how you got your answer.

ANSWER: _____ feet



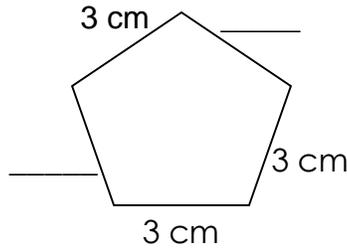
4. Find the perimeter of the rectangle. Explain how you got your answer.

ANSWER: _____ feet





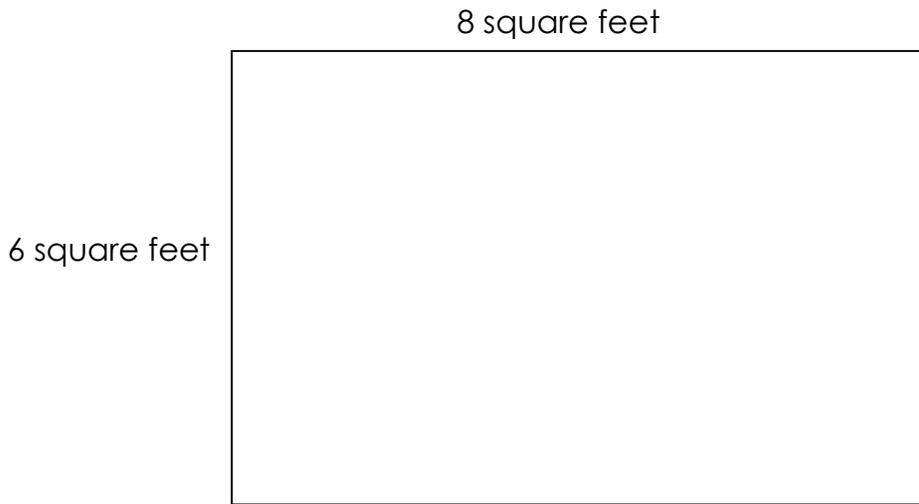
5. Find the perimeter of the pentagon. Explain how you got your answer. _____ cm



Use multiplication or addition to find the area.

6. Drew wants to tile the bathroom floor using 1 foot tiles. How many square foot tiles will he need? _____ tiles

Show and explain your thinking.

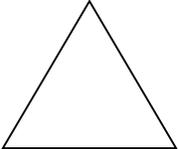




Standard 3G Geometry

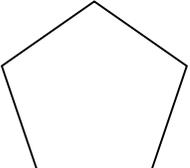
Use attributes to describe a shape with many sides, called a polygon.

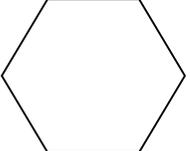
Identify lines and angles, and classify polygons by properties of their sides and angles.

1.  Shape _____ Sides _____ Angles _____

2.  Shape _____ Sides _____ Angles _____

3.  Shape _____ Sides _____ Angles _____

4.  Shape _____ Sides _____ Angles _____

5.  Shape _____ Sides _____ Angles _____



rectangle	pentagon	trapezoid	hexagon	triangle
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6. Which shapes from the list have at least two pairs of parallel lines?

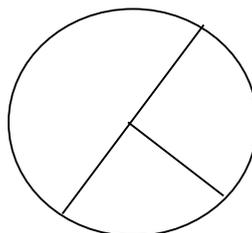
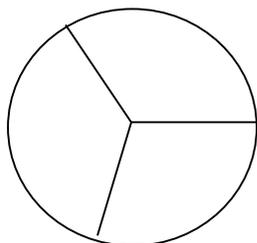
7. Which shapes from the list are quadrilaterals?

8. A quadrilateral has _____ sides and _____ angles.

Standard 3NF Understanding Fractions

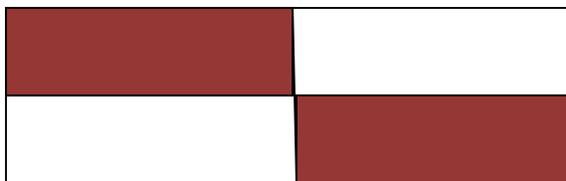
Explain your understanding of fractions as numbers.

1. Circle the figure that shows thirds. Explain how you know.





2. What fraction of the rectangle is shaded? _____



Draw the rectangle divided a different way but with the same fraction shaded.

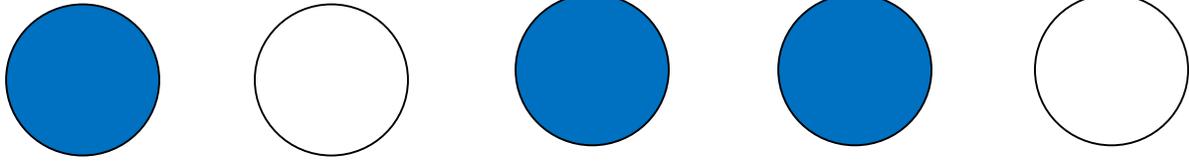


3. Six children want to share a candy bar equally. What fraction of the candy bar will each child get? _____ Draw a picture to show your answer.

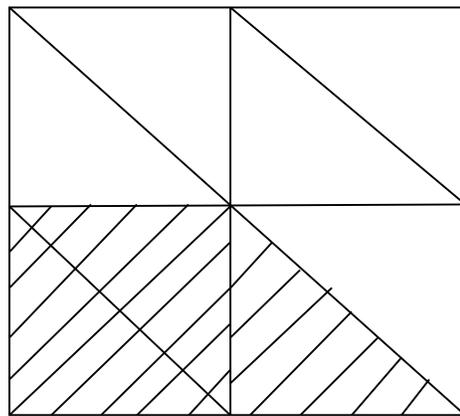
4. A pizza is cut into 8 equal slices. Joel ate 3 slices. What fractional part of the pizza did Joel eat? _____ Draw a picture to show your answer.



5. What fractional part of this set is shaded? _____

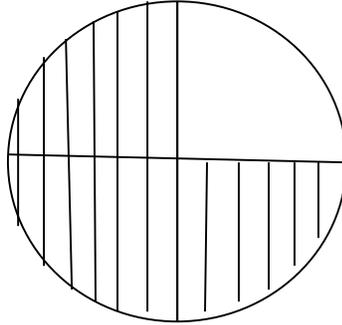


6. What fractional part of the shape is shaded? _____ How do you know?



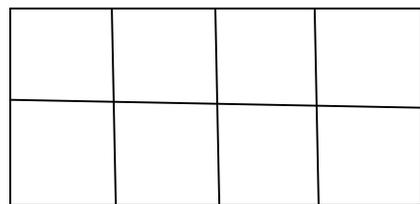
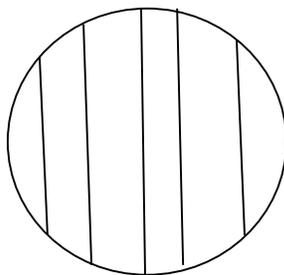
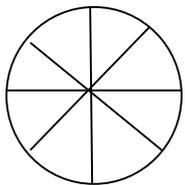


7. Look at the figure below. What fraction of the figure is shaded? _____



Explain what the numerator and denominator of your fraction tells you about the figure.

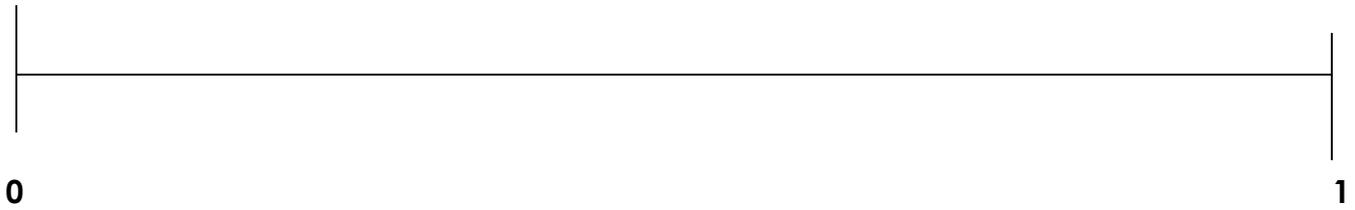
8. Circle the figures below that are divided into eighths.



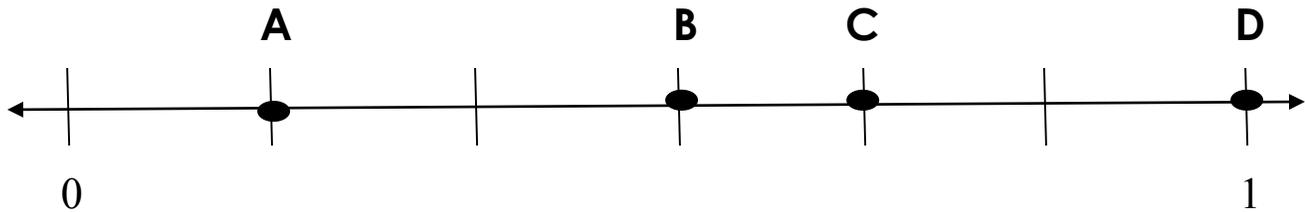
Explain how you know they are divided into eighths. _____



9. Divide this number line into sixths. Mark where $\frac{2}{6}$ is located on the line with an X.



10. Which letter best represents $\frac{1}{2}$ on the number line below? _____



11. Is $\frac{1}{4}$ more than or less than $\frac{1}{2}$? _____

Show or explain your answer.



12. Which inequality is true? (Circle).

a. $\frac{2}{6} < \frac{5}{6}$

b. $\frac{2}{6} > \frac{5}{6}$

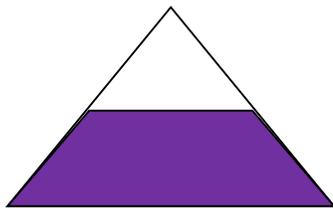
c. $\frac{2}{6} > \frac{4}{6}$

d. $\frac{6}{6} < \frac{1}{6}$

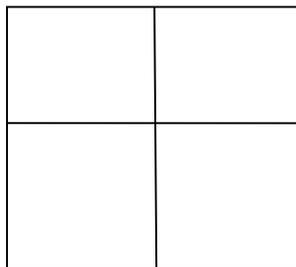
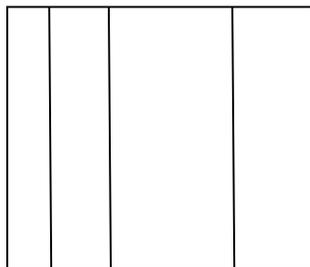
13. Kim ate $\frac{3}{8}$ of a pizza. Jon ate $\frac{3}{4}$ of the pizza that was the same size as Kim's. Who ate more pizza? Show and explain how you found your answer.



14. Is $\frac{1}{2}$ of the triangle shaded? Explain why or why not.



15. The pictures below show how two students divided a shape into fourths. Sam claims that one of the shapes is not divided into fourths. Is Sam correct? Explain why you agree or disagree with Sam.



16. Show two different ways to divide the shape into eighths.

