**Guided Notes- Chapter 3: Portions and Integers Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**In this chapter I CAN:**

* Apply a new tool for finding equivalent fractions
* Apply percents, decimals, and fractions to describe a portion of a whole
* Represent portions as percents, decimals, and fractions with pictures, symbols, and words
* Solve for the decimal form of a number when given it as a percent or fraction
* Connect rations to portions as ways to represent comparisons of parts
* Add positive and negative integers and rational numbers
* Solve for the absolute value of a number
* Determine the length of horizontal and vertical line segments on a coordinate grid.

**3.1.1 How can I represent data?**

**Using the Multiplicative Identity**

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| ***3-1***  |
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| ***3-2 Less is More*** |
| Lasagna left after Frankie’s mother: | Lasagna left after repackaged: |
| Does she really have more lasagna after repackaging? Explain. |

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| ***3-3 One-Derful One*** |
| 1. Does it make sense?

Is it equivalent? | 1. Find at least two other fractions or ratios that are equivalent
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| ***3-4***  |
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| ***3-5 So Many Choices*** |
| **I:****Ii:****Iii:**  | **b.**  |

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| ***3-6***  |
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| ***3-7***  |
| 1.
 | 1.
 |
| 1.
 |
| 1.
2. **Ii. Iii.**
 |

|  |
| --- |
| ***3-8*** |
| 1.
 |  |
| 1.
2. **Ii. Iii.**
 |

**3.1.2 How can I describe a portion?**

**Portions and Percents**

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| ***3-22 Pretty Portions*** |
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| ***3-23***  |
| Which estimate is greatest? | Order estimates: |

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| ***3-24***  |
| 1.
 |
| 1.
 |
| **c.** |

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| ***3-25*** |
| **b**.Draw your picture | Estimate: | Name your portion: |
| **c**. |
| ***3-26*** |
| 1. Count raisins:
 | Fraction: | How can someone tell the size by looking at your fraction? |
|  |
| ***3-27*** |
| 1.
 |
| 1.
 | 1.
 |

|  |
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| ***3-28*** |
| 1.
 | **b**. |
| **c.** |

**3.1.3 How are the representations related?**

**Connecting Percents with Decimals and Fractions**

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| ***3-36 Build It, Draw It, Write It, Say It***  |
|  |
| **a.**Draw your pictureWrite in 2 ways: | **b**.Draw your pictureWrite in 2 ways: | **c.**Draw your pictureWrite in 2 ways: |
| 1.

Draw your picture: Write in 2 ways: |

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| ***3-37***  |
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| ***3-38*** |
| How can 0.19 be represented? | What about 0.5? |
| ***3-39***  |
| Draw a large percent ruler and mark each of portions using the letter. |

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| ***3-40*** |
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| ***3-41*** |
| 1.
 |
| 1.
 | What giant one would you use? |
| 1. Write it in a decimal.
 | How is it related to the 100% block in part a? |
|  | Explain. |
| ***3-42*** |
| 1.
 |
| 1.
 |
| **c**. |
| ***3-43*** |
| **a.**  |
| **b.**  |

**3. 1. 4 What is the connection?**

**Multiple Representations of a Portion**

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| ***2-29 Be There, Or Be Square*** |
| **a.**Draw it:Write it: | **b.**Draw it:Write it: | **c.**Draw it:Write it: | **d.**Draw it:Write it: |
| **e.** |
| **d.** |
| ***3-56***  |
| What does Sally mean? What explanation can you give for lining up decimals when adding and subtracting? |
| Write your note to Susie here. |
| ***3-57*** |
| **a.** |
| ***3-58*** |
| **a.** | **b.** | **c.** |
| ***3-60 Learning Log*** |
|  |

**3. 1. 5 Is there a more efficient way?**

**Completing the Web**

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| ***3-67 Converting Between Percents and Decimals*** |
| **a.** |
| **b.** |
| **c.** |
| **d.***i.*  | *ii.* | *iii.* | *iv.* | *v.* |
| **e.***i.* | *ii.* | *iii.* | *iv.* | *v.* |

|  |
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| ***3-68 Converting From Fractions To Decimals***  |
| **a.** |
| **b**. |
| **c**. |
| **d.** |
| **e.**Find the value of 5/8? | 19/4? | Any fraction? |
| ***3-69*** |
| **a.** | **b**. |
| **c.** | **d**. |

**3.1.6 How else can I relate the quantities?**

**Investigating Ratios**

|  |
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| ***3-78*** |
|  |
| ***3-79***  |
| **a**.***i.*** | ***ii.*** | ***iii.*** | ***iv.*** |
| **b.** |
| ***3-80*** |
| **a.**What do you think each of these ratios represent? | How do these ratios compare to the ratios in problem 3-79? |
| **b.** |
| **3-81 Ways To Write A Ratio** |
| **a**.word: | Fraction: | Colon: | What would you have to change? |
| **b**.Word & colon: | Fraction: |
| **c.** |
| **d.** |
| ***3-82*** |
| **a**. | **b.** |

**3.2.1 How does it move?**

**Addition, Subtraction, and Opposites**

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|  ***3-89 Getting There*** |
| **a.** | **b**. | **c**. |
| ***3-90*** |
|  | **b.** |
| **c.** | **d.** |

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| ***3-91 Opposites*** |
| 1. 1st Game:
 | 2nd Game: |
| **b.** |
| **c.** |

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| ***3-92*** |
| 1. Words:
 | Where did 3 come from? | Why is one number subtracted? |
| 1. Describe the frog movement.
 | Where did the frog start & where did he end up? |
| 1. Where does the frog start & where does he end up?
 | What is special about the ending point? |
| 1. Write an expression:
 | Where did the frog end up? |
| 1. Where does the frog start in the expression?
 | Where does it land? |

**3.2.2 Where does it land?**

**Locating Negative Numbers**

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| 2-42  |
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| 2-44 |
| How many are there? | Do they have the same area? |
| Sketch your figures. |
| What has the largest area?  | Which has the smallest area? |

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| 2-45 |
| On a separate sheet of paper, explain if there is a relationship between area and perimeter? Does changing one mean the other one always changes? Label “Area and Perimeter” and include today’s date. |

**2.3.1 How can I make the largest area?**

 **Using Rectangles to Multiply**

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| 2-51 Special Products |
| Explanation of strategy: |
| 2-52 Maximizing Area |
| a.  |
| b.Where can you see 2(of the 92) and the 8 (of the 18)?  | What about 9 of the 92 and the 1 of the 18? | What part of the picture represents the product? |
| 1. If Allen and Debra had done the opposite, would the product have been larger or smaller?
 |
| Support your thinking by drawing a figure for the new product. |
| 2-53  |
| a. Is there more than one way to do this? |
| 1. Sketch two rectangles on paper and label dimensions.

Sketch: 1 | Are dimensions of each of the rectangles the same, or are some of them different?Sketch:2 |
| 1. Why might “10 + 2” and “10 + 3” Alan’s dimensions?
 |
| 1. Which of the possible arrangements makes it easiest to see the dimensions and area of the rectangle?
 | Sketch rectangle of choice. |
| 1. How are the total value of the blocks and the dimensions of the rectangle related?
 | If the one block has one square unit of area, what is the area of Alan’s rectangle? Explain in at least two ways you can determine the area. |
| 2-54 |
| 1. Why did he label the sides 10, 3, 10, and 2?
 |
| 1. Copy Alan’s generic rectangle.

What does the “100” represent?Fill in the other three smaller rectangles the same way. |
| 1. How can you find the total area represented by the entire rectangle? Find two ways.
 |  |
| d. |

**2.3.2 How can I find products efficiently?**

 **Using Generic Rectangles**

|  |
| --- |
| 2-60 |
| a. |
| 1. Find the product.
 | 1. Write your answer as a numerical multiplication sentence:

Write your answer as a sum: |
| 2-61 |
| a.  |  |
| b.  | d. |
| * 1. Generic Rectangle Puzzles
 |
| 1. Can you find more than one possibility for any of these rectangles?
 |
| 2-63 |
|  |
| 2-64 |
| On a separate sheet of paper, describe how you can use a generic rectangle to multiply two numbers. Use an example. Title this entry “Generic Rectangles” and include today’s date. |

**2.3.3 How can I understand products?**

 **Generic Rectangles and Greatest Common Factor**

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| 2-70  |
| What is a common factor? | What is a greatest common factor? |
| 1. How many ways can you write the dimensions of the generic rectangle at the right?
 | Draw a new rectangle for each way. |
| 1. What do you think is meant by the greatest common factor of 120 and 18?
 | What is the GCF for 120 and 18? |
| 2-71 |
| 1. Draw as many rectangles as you can and write multiplication sentence for rectangle.
 |
| 1. Draw as many rectangles as you can and write multiplication sentence for rectangle.
 |
| 2-72 |
| 1. Is Ethan correct?
 | Draw a diagram to show his idea or show where he went wrong. |
| 1. Write a multiplication sentence with parentheses to represent Ethan’s generic rectangle.
 |
| 2-73 |
| a. Draw. | Write multiplication sentence. |
| 1. Draw.

  | Write multiplication sentence. |
| c. Draw.  | Write multiplication sentence. |
| 2-74 |
| Discuss with your group the idea of a greatest common factor. On a separate sheet of paper, write a definition for the greatest common factor. Create your own example to help explain your definition. Title this “Greatest Common Factor” and label today’s date. |

**2.3.4 How can I rewrite products?**

 **Distributive Property**

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| 2-80 |
| 1. Draw a diagram for 8 (32).
 |
| 1. Write a number sentence that only uses addition to represent 8(32).
 |
| 1. Write a number sentence with multiplication, parentheses, and addition to represent 8(32).
 |
| 1. Find the product of 8(32)
 |
| 2-81 |
| 1. Draw generic rectangle.
 | Write equation.  | Find product. |
| 1. Draw generic rectangle.
 | Write equation. | Find product. |
| 1. Draw generic rectangle.
 | Write equation | Find product. |
| 2-82 |
| What is the Distributive Property? |
| a. 5 ( 6 + 9 ) | b. 11 ( 2 + 5 ) | c. 4 \* 512 |
| 2-83 |
| a. How can you see the Distributive Property in the top and bottom halves of the rectangle? |
|  |  |
| Calculate the product of 53 (67) by evaluating each expression. |
| 2-84 |
| 1. 15 (38)
 | 1. 92 \* 156
 |
| 1. 101 (34 + 62)
 | 1. 525 (18)
 |
| 2-84 |
| On a separate sheet of paper, write a definition for the Distributive Property in your own words. Explain how it can be used to help you find products mentally without the use of a calculator. Be sure to include an example. Title this “Distributive Property” and include today’s date. |