Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Class\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_

**Weekly Practice Packet #4:**

**Number Theory and Fraction Pre-Skills**

The weekly practice packet is due on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Complete the problems in the packet throughout the week as you learn more about each skill or concept. It is important that you try your best and persevere when solving each problem or answering each question. **The weekly practice packet counts as a 10-point nightly practice grade.**

If you get stuck do the following:

1. Refer to your class notes, practice sheets, and warm-ups.
2. Refer to your textbook. The corresponding textbook pages are noted at the beginning of each section.
3. Take a break and try the problem or question again.
4. Attend your teacher’s extra help session.
5. Still having trouble? Write a statement stating why you are having difficulty on the problem or question.

**PART I: VOCABULARY**

Directions: Create flashcards for the vocabulary words listed below. The definitions for these words can be found in class notes and in the glossary of the textbook. These words appear throughout the packet and the flashcards will be most useful in becoming more familiar with their definitions.

**Numerator Denominator Simplest Form Mixed Number**

**Improper Fraction Product Greatest Common Factor**

**Relatively Prime Divisibility Prime Factorization**

**Prime Number Composite Number Divisibility Rule for 2**

**Divisibility Rule for 3 Divisibility Rule for 5 Divisibility Rule for 10**

**PART II: DIVISIBILITY (notes page 1)**

1. How should the following statement be re-worded so that it is correct?

*12 is a factor of 6.*

*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

1. What does it mean when you say a number is divisible by another number?

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1. Determine if each of the following numbers is divisible by the number given. Provide a reason in the last column to explain why or why not.

|  |  |  |
| --- | --- | --- |
| **Number** | **Yes or No** | **Provide a Reason Below.** |
| Is 824 divisible by 5? |  |  |
| Is 234 divisible by 3? |  |  |
| Is 732 divisible by 10? |  |  |
| Is 621 divisible by 7? |  |  |
| Is 678 divisible by 2? |  |  |

1. Give an example of a 4-digit number that is divisible by 3.

**PART III: PRIME FACTORIZATION (notes pages 2-3)**

1. How is a prime number different from a composite number? Explain.

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1. Determine if the statement below is true or false. If the statement is false, provide an example of a number to support your reasoning.

*All odd numbers are prime.*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Determine if each of the following values is prime or composite. Provide an explanation for each.

|  |  |  |
| --- | --- | --- |
| **Value** | **Prime or Composite?** | **Explanation** |
| 19 |  |  |
| 57 |  |  |
| 91 |  |  |

1. Why is 2 x 2 x 6 not the prime factorization of 24?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**PART IV: GREATEST COMMON FACTOR (notes page 4)**

1. What strategy can you use to easily list the factors of a number?
2. Use the strategy above to list ALL of the factors of 64.
3. What are the two strategies used to determine the greatest common factor of two or more numbers?

 Strategy 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Strategy 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Use one of the strategies stated in #11 to determine the greatest common factor of the following sets of numbers. SHOW ALL OF YOUR WORK AND EXPLAIN WHY YOU CHOSE THAT STRATEGY.
	1. 24 and 48

Why did you choose this strategy?

GCF: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Use one of the strategies stated in #11 to determine the greatest common factor of the following sets of numbers. SHOW ALL OF YOUR WORK AND EXPLAIN WHY YOU CHOSE THAT STRATEGY.

* 1. 56 and 60

Why did you choose this strategy?

GCF: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Why did you choose this strategy?

* 1. 32 and 56

GCF: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Explain why 8 and 25 are relatively prime.

**PART V: SIMPLIFYING AND IMPROPER FRACTIONS & MIXED NUMBERS (see three videos on google classroom)**

1. Write the following in simplest form.

 a. $\frac{16}{64}$

 b. $6\frac{32}{40}$

 c. $\frac{195}{105}$

1. Explain why the student’s statement below is incorrect.

*The fraction* $\frac{12}{10}$ *in simplest form is equivalent to* $1\frac{2}{10}$*.*

*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

1. Write the following improper fractions as a mixed number in simplest form.

a.$\frac{13}{7}$ b. $\frac{12}{8}$ c. $\frac{99}{12}$

1. Write the following mixed numbers as an improper fraction.
2. $8\frac{3}{5}$ b. $9\frac{6}{7}$ c. $11\frac{5}{8}$

**PART VI: MODELING FRACTION MULTIPLICATION (notes page 5)**

1. Model the following multiplication problems using the rectangle provided. Write your final product in simplest form.
2. $\frac{1}{6}$ of $\frac{3}{4}$ b. $\frac{3}{8}$of $\frac{1}{2}$

 Product: \_\_\_\_\_\_\_\_\_\_\_\_ Product: \_\_\_\_\_\_\_\_\_\_\_\_

1. Fill in the blank with **more than, less than, or equal to**, in order to complete the following statement.

If $\frac{2}{3 } $of $ \frac{4}{5}$ = $\frac{8}{15}$, then $\frac{1}{3}$ of $\frac{4}{5}$ will be \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ $\frac{8}{15}$.

 I know this because….

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_