

**Welcome Knights: 7<sup>TH</sup> Grade Summer Math Packet 2023-2024**

## Directions:

- This packet is for all 7<sup>th</sup> grade students no matter what level you are in.
- To receive full credit, you must show all work if the problem requires steps.
- The use of a calculator is not permitted.
- When handed in, the packet should be stapled in page order with your name and period on the top.
- Please attach any scrap paper if used (be sure scrap paper is neat and has the page and question number next to each problem).
- Use summaries on top of each page as a quick reference for how to complete each page.
- The summer packet is due by September 4, 2023.

**I. Summary: Rounding Decimals**

Step 1: Decide on the place the number is to be rounded to.

Step 2: Look at the first digit to the right of that place.

Step 3: If the digit is equal to or more than 5, round up.

Step 4: If the digit is less than 5, round down.

Step 5: We may drop the zeros.

Example: Round to the nearest hundredth.

$$2.\underline{1}456 = 2.15$$

Example: Round to the nearest tenth.

$$0.\underline{4}3 = 0.4$$

Number	Rounded Place Value	Answer
1. 2.467	tenths	
2. 0.9857	hundredths	
3. 14.832	hundredths	
4. 256.93	tenths	
5. 0.000756	thousandths	

## II. Summary: Converting a Fraction to a Decimal

**Examples:** Write  $\frac{21}{25}$  as a decimal

**Method 1:**

Change  $\frac{21}{25}$  to a fraction with a denominator of 10, 100, or 1000

**EX:**  $\frac{21}{25} = \frac{?}{100}$

(Use 100, since 25 divides into 100 evenly)

$$\frac{21}{25} = \frac{x4}{x4} = \frac{84}{100} \quad \frac{84}{100} = 0.84 \text{ as a decimal}$$

**Method 2:** Divide 21 by 25

$$\begin{array}{r} \frac{21}{25} \rightarrow 25 \overline{)21.00} \\ \underline{-0.84} \\ 21.00 \\ \underline{-200} \\ 100 \\ \underline{-100} \\ 0 \end{array}$$

Therefore:  $\frac{21}{25} = 0.84$

Write each fraction as a decimal using any method. Do NOT use a calculator!

1.  $\frac{13}{20}$

2.  $\frac{9}{12}$

3.  $\frac{37}{40}$

4.  $\frac{7}{25}$

### III. Summary: Adding/Subtracting Fractions

**Step 1:** Each fraction must have a common denominator.

- Find a LCM. This will be the common denominator of your fractions.
- Multiply the numerator and denominator by the factor that it would take to get to your common denominator

**Step 2:** Add or Subtract your numerators. Denominator *stays the same!*

**Step 3:** Answer must be written in simplest form, must reduce! You do not need to change an improper fraction to a mixed number

*Simplify each expression by adding or subtracting the fractions. Answer must be in simplest form (can be left as an improper fraction) Do NOT use a calculator!*

$$\frac{7}{8} - \frac{1}{3} =$$

$$3\frac{4}{5} - 1\frac{1}{3}$$

$$\frac{5}{6} + \frac{7}{3} =$$

$$2\frac{3}{5} + 6\frac{2}{3}$$

#### IV. Summary: Multiplying Fractions

**Step 1:** Change to improper fractions, *if necessary*.

**Step 2:** Fractions are multiplied across:

Numerators multiplied to numerator. Denominator multiplied to denominator.

**Step 3:** Answer must be written in simplest form, must reduce! You do not need to change an improper fraction to a mixed number.

*Simplify each expression by multiplying fractions. Answer must be in simplest form (can be left as an improper fraction).* Do NOT use a calculator!

$$\frac{9}{10} \times \frac{1}{3} =$$

$$3\frac{1}{6} \times \frac{3}{10} =$$

#### V. Summary: Dividing Fractions

**Step 1:** Change to improper fractions, *if necessary*.

**Step 2:** K-C-F (Keep-Change-Flip).

**Keep** the first fraction. **Change** division to multiplication. **Flip** the second fraction (reciprocal)

**Step 3:** Fractions are multiplied across:

Numerators multiplied to numerator. Denominator multiplied to denominator.

**Step 4:** Answer must be written in simplest form, must reduce! You do not need to change an improper fraction to a mixed number.

*Simplify each expression by dividing fractions. Answer must be in simplest form (can be left as an improper fraction)* Do NOT use a calculator!

$$\frac{7}{8} \div \frac{1}{4} =$$

$$\frac{2}{3} \div \frac{3}{5} =$$

