Dear CLAE Families,

The goal of the Winter Break Packet is to give students an opportunity to continue practicing core skills during this break. The packet includes content that has previously been covered in their math class. This packet should be completed during the break and returned for a grade in Math on Tuesday, January 7th.

**Directions on how to earn full credit on these gradebook assignments:**

1. Submit your completed packet to your Homeroom teacher on the due date – Tuesday, January 7th.
2. Complete your packet neatly.
3. **Math** – Show your work and check over your answers for accuracy.

Math Grade /20 points

Name: ________________________________

Homeroom: __________________________
**Writing Ratios and Solving for their Values**

1. In Mrs. Smith's class there are ten people wearing purple polos and eight people are wearing black polos.
   a. What is the ratio relationship of black polos to purple polos?
   b. Write the value of the ratio.

2. There are 15 male teachers in the school. There are 20 female teachers in the school.
   a. What is the ratio relationship of male teachers to female teachers?
   b. Write the value of the ratio.

3. For every five dollars Tom deposits in his bank account, his sister Stephanie deposits ten dollars.
   a. What is the ratio relationship of the amount of money Stephanie deposits to the amount of money Tom deposits?
   b. Write the value of the ratio.

4. At the local tee shirt factory, red shirts are twice as popular as yellow shirts. So for every fifteen yellow shirts made the factory makes double the amount of red shirts.
   a. What is the ratio of the number of red shirts to the number of yellow shirts made?
   b. Write the value of the ratio.

5. While shopping at the grocery store there were 50 red apples for every 32 green apples.
   a. What is the ratio of green apples to red apples?
   b. Write the value of the ratio.

6. In a package of Sour Patch Kids there were only eleven lemon flavored Sour Patch Kids and two lime flavored Sour Patch Kids.
   a. What is the ratio of lime flavored candy to lemon flavored candy?
   b. Write the value of the ratio.
Solving Problems with Ratios

1. At the local animal shelter, the ratio of cats to dogs is 3:5. If there are 30 dogs total then how many cats are in the shelter?

2. The ratio of bikes to scooters is 4 to 7, if there are 24 bikes then how many scooters are there?

3. The ratio of the number of sweatshirts to pants ordered is 2 to 9. If the company orders 20 shirts then how many pairs of pants do they have to order?

4. At the school dance the ratio of guys to girls attending is 5:8, if the guest list showed that 45 guys were at the dance then how many girls were at the dance?

5. On Monday, the ratio of motorcycles to sports cars sold was 3 to 2. If the number of sports cars sold was four then how many motorcycles were sold?

6. According to Jessica’s workout plan for every 10 sit ups she has to perform 3 chin ups. Jessica was able to do 12 chin ups, how many sit ups did she do?

Converting to Unit Rates

1. Brenda can deliver 644 newspapers in seven hours. How many newspapers can she deliver in one hour?

2. Bill hit a bucket of 323 golf balls in 17 hours. How many golf balls can she hit in one hour?

3. Henry can write 5 ¼ pages of his new book in 3 hours. How many pages can he write in one hour?

4. Tony washed 95 cars in five days. How many cars can he wash per day?
Comparing Rates

1. Ricky and Kyla are selling tickets for their school play. Ricky sold 65 tickets in 13 days and Kyla sold 72 tickets in 8 days. Who was able to sell more tickets per day?

2. Chicken is on sale at two grocery stores, Grocery Mart is selling 2 pounds of chicken for $11 and Food Depot is selling 3 pounds of chicken for $14.25. Which grocery store has a better deal on chicken?

3. Devyn and Makayla sell cars at Auto Retail. Devyn has been working there for nine years and has sold 414 cars, Makayla has been working there for eleven years and has sold 473 cars. Who has sold more cars per year?

4. Jerome and Wade both work for the same lawn care company. Wade fertilizes 189 lawns in three months and Jerome fertilizes 132 lawns in two months. Who has fertilized more lawns per month?

Using Unit Rates

1. Helena works for a publishing firm. She is considered an average typist and can type 52 words/minute. If she continues at this rate, how many words would Helena type in 4 minutes?

2. Jaxon test-drives cars for a car company. Part of his job is to test the cruise control on a testing course. On his last test drive, Jaxon set the cruise control at 48 miles/hour and drove for 2 hours. How many miles did Jaxon drive?

3. To train for an upcoming marathon, Alvin runs 9 miles a day. If Alvin runs 9 miles every day for 30 days, how many total miles will he run?

4. A library just hired Brittany to write reviews on different books. The job requires Brittany to read 3 books/week. If Brittany reads at this pace for 12 weeks, how many books will she read?
5. Notebooks are on sale for 4 notebooks/dollar. Mrs. Day wants to buy notebooks for her students but only has $12 to spend. How many notebooks can Mrs. Day buy?

6. Kevin hopes to earn a college basketball scholarship. To improve his shooting skills, Kevin shoots 50 baskets/day. If Kevin shoots 50 baskets every day for 60 days, how many shots would Kevin take?

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**Solving Percent Problems**

1. Challenger Middle School has 90 students in the seventh grade. If 20% of the seventh grade students attend tutoring then how many students attend tutoring?

2. In our solar system six out of eight planets have moons, what percent of the planets have moons?

3. Melina is the quarterback for her high school football team. She completed 350 passes which is 70% of the total number of passes attempted. How many passes did Melina attempt?
4. Elmer has collected 300 fossils, 21% of them are from the prehistoric era. How many of Elmer's fossils are from the prehistoric era?

5. In the United States, 13 out of every 20 soda cans are recycled. What percent of soda cans are recycled in the United States?

6. In Steve’s garden 40% of the plants are tomatoes and 60% of the plants are peppers. If there are a total of 120 plants in Steve's garden then how many of them are tomatoes?

7. Of all the species in the world 4 out of every 5 are insects. What percentage of species are insects?

Convert to Improper Fractions

1) \(4\frac{3}{5}\)  
3) \(6\frac{2}{3}\)

2) \(2\frac{5}{6}\)  
4) \(1\frac{7}{10}\)

5) \(3\frac{9}{11}\)  
6) \(5\frac{1}{7}\)
Convert to Mixed Numbers

1) \( \frac{11}{3} \)

2) \( \frac{20}{6} \)

3) \( \frac{14}{5} \)

4) \( \frac{6}{4} \)

5) \( \frac{17}{7} \)

6) \( \frac{19}{2} \)

Division of Fractions

1) \( 2 \div \frac{5}{12} = \)

2) \( \frac{2}{5} \div \frac{8}{5} = \)

3) \( 8 \div \frac{3}{5} = \)

4) \( \frac{2}{9} \div \frac{9}{2} = \)

5) \( 5 \div \frac{4}{9} = \)

6) \( \frac{2}{5} \div \frac{1}{7} = \)

Division of Fractions (Involves Mixed Numbers)

1) \( 2\frac{3}{5} \div \frac{3}{5} = \)

2) \( \frac{14}{6} \div \frac{5}{6} = \)

3) \( 4\frac{1}{3} \div \frac{2}{3} = \)
Addition of Decimals

1) \(7\frac{1}{10} + 5.6 =\)

2) \(6\frac{6}{10} + 9.3 =\)

3) \(4.4 + 2\frac{12}{100} =\)

4) \(8\frac{3}{10} + 5\frac{15}{100} =\)

5. Carly throws shot put for her high school’s track team. At a track meet she threw three times, 13.5ft, 14.25ft, and 15.75ft. What was her total distance thrown at the track meet?

Subtraction of Decimals

1) \(2\frac{3}{100} - 1\frac{5}{10} =\)

2) \(5.67 - 2.45 =\)

3) \(9\frac{34}{100} - 7\frac{7}{10} =\)

4) \(10\frac{4}{10} - 5.32 =\)

5. Mark is putting up a fence around his garden. One side of the garden is 14.25 meters and he is cutting out 1.5 meters for a doorway. How much fencing will be on the one side of his garden?
**Multiplication of Decimals**

1) \(4.7 \times 6 = \)

5) \(6.13 \times 4 = \)

2) \(4 \times 0.2 = \)

6) \(3.56 \times 12.03 = \)

3) \(15 \times 0.8 = \)

7) \(2.2 \times 5.5 = \)

4) \(4.2 \times 1.5 = \)

8) \(4.32 \times 10.21 = \)

9. A delivery driver has to make five stops on his route. Each route he has to drop off a box that weighs 15.75 pounds. All together how many pounds of packages are on his delivery truck?

10. Last week a pet store sold 12 hamsters. If each hamster cost $20.35 then how much total profit did the pet store make selling hamsters?

11. Elijah is practicing for a marathon and runs 19.5 miles a day for seven days straight. How many miles all together did Elijah run for seven days?