Summer Homework

Incoming Grade 6

Math

Please work during the summer months to complete this math packet. All completed packets are due on the first day of school in September of 2012.

For every day that the assignment is late being submitted to the teacher FIVE POINTS (-5pts) will be deducted from the final grade on this assignment. After five days of being tardy this assignment will automatically result in a grade of a ZERO and will not be accepted after that date.

Thank you for your support and have a blessed summer!

Mrs. D. Vattelana
Math Teacher
Grades: 6, 7, 8

Happy Solutions!

6th Grade Curriculum Overview

Number Sense

- Add, subtract, multiply and divide whole numbers, mixed numbers, fractions and decimals.
- Find equivalent values for fractions, decimals and percents (e.g., ¼ = .25 = 25%).
- Use mental math to add, subtract, multiply and divide with whole numbers and fractions.
- Determine which number is closer in value to a given set of numbers.
- Use rounding to estimate (e.g., 295 x 50 = 300 x 50).
- Halve, double and triple numbers.
- Order fractions, decimals and percents from least to greatest.
- Determine the place value of numbers from thousandths up to billions.
- Round decimals to nearest tenth, hundredth and thousandth.
- Round whole numbers to the nearest thousand, ten thousand and hundred thousand.
- Determine which fraction, percent or decimal is closest to a given fraction.
- Approximate the placement of fractions on a number line.
- Determine ratios.
- Count by hundredths (e.g., what comes after 6.09).
- Determine how much more in value one digit is from another based on place value.
- Determine the value of a number given its place value (e.g., the value of 7 in 2.73 and 1.467).
- Identify prime numbers in a given set.
- Identify multiples of given numbers.
- Change fractions to improper fractions.
- Find the greatest common factor for a given set of numbers
- Find the value of a number using exponents..
- Transcribe numerals into words.
- Transcribe decimals, written in words, into numerals.
- Transcribe expanded notation (e.g., 30,000 + 200 + 40 + 6 = ?).
- Find the dividend given the divisor and the quotient.
- Rearrange a given set of numerals to find the largest and the smallest numbers possible.
- Determine a number given a set of parameters (e.g., divisible by 5, not a prime number, etc.).

Algebra and Functions

- Solve algebraic equations.
- Continue decimal patterns (e.g., .253, .256, .259…).
- Choose the sign that makes the number sentence correct.
- Determine a set of numbers, given the rule (e.g., add 4, divide by 2).

Measurement

- Convert within a system of measurement (e.g., 86 ounces = 5 pounds, 6 ounces).
- Determine minutes as a fraction of an hour (e.g., what fraction of an hour is 20 minutes).
- Determine the amount of elapsed time.
- Determine how long it would take to reach a destination given the mph and the distance in miles.
- Determine the mph to drive a given distance in a given time.
- Complete a time sequence (e.g., 4:00, 4:35…).
- Determine years as a fraction of a decade and of a century (e.g., 2 years = 1/5 decade).
- Determine inches as a fraction of a foot and of a yard.
- Use a scale to convert inches to feet.
- Determine fraction of a coin given other coins (e.g., what fraction of a dime is a nickel?).
- Determine the price of an item given a percent increase in price.
- Determine the price of an item less a discount.
- Determine the total price of a restaurant bill after calculating the tip.
- Determine the better buy between two items.
- Adjust each ingredient according to the increase of servings in a recipe.
- Determine the temperature given a rise or fall in degrees.
- Identify the freezing and boiling points of water in degrees Fahrenheit and Celsius.

Geometry

- Identify parallel, perpendicular and intersecting lines.
- Find the area of a parallelogram and a triangle.
- Find the perimeter of a square given the length of one side.
- Determine the perimeter of a rectangle.
- Draw a figure with 4 congruent sides and 4 right angles.
- Identify right, acute and obtuse angles.
- Find the degree of an angle in a triangle, given the other two angles.
- Find the degree of an angle within a circle given the other angle.
- Find the circumference of a circle.
- Find ordered pairs on a grid.

Data Analysis, Statistics and Probability

- Interpret information on a graph.
- Transfer information on a line graph to a bar graph.
- Predict the probability of heads or tails in the flip of a coin.

Optional Supplemental Lessons

- Correctly identify and use math verbs in a number sentence.
- Evaluate expressions using the rules for the order of operations.
- Describe rate as a fraction of two numbers with different units.
- Describe ratio as a fraction of two numbers with the same units.
- Demonstrate an understanding of an opposite as an additive inverse.
- Demonstrate an understanding of the distributive, commutative and associative properties.
- Describe a pattern using variables.
- Use scientific notation to represent large and small numbers.
- Graph positive and negative rational numbers on a number line.
- Draw the perpendicular bisector of a line segment.
- Name and draw points on the xy-coordinates.
- Graph the solution to an equation on the xy-coordinates.
- Demonstrate an understanding of slope as a rate of change.
- Graph linear functions.
- Solve problems involving supplementary and complementary angles.
- Demonstrate an understanding of vertical and adjacent angles.
- Translate words to algebraic expressions or equations.
- Create and apply an algebraic equation to solve a real life situation.
- Identify the range, mean, median and mode of a data set.
- Determine whether a sample group may be biased.
- Use circumference and area formulas to evaluate problems involving circles.
- Accurately draw a geometric figure from a given set of conditions.

7. $2.6 \times 0.3 =$ _____

8. Circle the correct way to rewrite this division problem before solving: $\frac{1}{4} \div \frac{1}{2}$

a. $\frac{4}{1} \times \frac{1}{2}$ b. $\frac{4}{1} \times \frac{2}{1}$ c. $\frac{1}{4} \times \frac{2}{1}$ d. $\frac{1}{4} \times \frac{1}{2}$

9. Mental math: $5 - \frac{3}{8} =$ _____

10. Lucinda has a coin collection. She sold a friend 12 coins, and bought 7 new coins. She then had 39 coins. How many did she have originally?

_____

11. Mental math: $7\frac{3}{4} - 3\frac{1}{2}$ _____

12. Phone Service Plans:

Plan A	Plan B
800 minutes for $60 per month	13¢ per minute - no minimum

Which plan is better for the following two months?

May – 750 minutes _____ June – 400 minutes _____

Lesson #7

1. The division sign is missing. Between which two numbers does it belong?

3 0 7 5 2 5 = 1 2 3 _____

2. Mental math: $2\frac{4}{9} + 4\frac{5}{9}$ _____

3. a. $\frac{3}{10} \div \frac{4}{5} =$ _____ b. $\frac{5}{6} \times \frac{1}{3} \times \frac{3}{5} =$ _____

4. Which of the following decimals are close to one half?

.77 .49 .05 .52 _____ _____

5. Fill in the missing number.

$$52\overline{)15\ \frac{7}{52}}$$

6.

$$\begin{array}{r} 23\frac{4}{5} \\ -\ 19\frac{1}{6} \\ \hline \end{array}$$

Lesson #24

1. Mental math:

a. $33\frac{1}{3}$ % of 18 = _____

b. $66\frac{2}{3}$ % of 18 = _____

2. How many times greater is the 9 in "a" than in "b" ?

a. 38,925,000,000 b. 38,829,000,000 _____

3. Mental math: A human being blinks about 1,500 times in $2\frac{1}{2}$ hours. How many times will he blink in 10 hours?

_____

4.

$$\begin{array}{r} \frac{5}{8} \\ +\ 3\frac{1}{2} \\ \hline \end{array}$$

5. a. -5 + (-7) = _____ b. -5 + 7 = _____

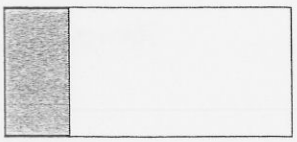
6. Problem solving: A plastic ball and bat cost $2.50. The bat costs $2.00 more than the ball. How much does the ball cost?

_____

Lesson #24 (continued)

7. Which decimal shows about how much of the rectangle is shaded?

a. 0.25 b. 0.75 c. 0.45



_____

8. Mental math: a. $4 - 3\frac{9}{10} =$ _____

b. $\frac{1}{2} + \frac{1}{4} =$ _____

9. A year is:

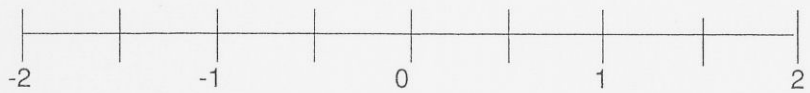
a. what percent of a decade? _____ what fraction? _____

b. what percent of a century? _____ what fraction? _____

10. $2\frac{3}{4} \div 4 =$ _____

11. Approximate where the following numbers would fall on the number line below. Mark the spots with the corresponding letters.

a. $\frac{3}{4}$ b. $-\frac{3}{2}$ c. -.5



12. $1\frac{1}{2} \times \frac{1}{3} =$ _____