

Summer Homework

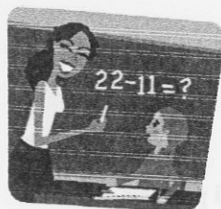
Incoming Grade 7

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!



Grade 7 Curriculum Overview

Number Sense

- Add, subtract, multiply and divide whole numbers, mixed numbers, fractions and decimals.
- Find equivalent values for fractions, percents and decimals (e.g., $\frac{1}{4} = .25 = 25\%$).
- Compare using math verbs.
- Add with more than two fractions.
- Change improper fractions to mixed numbers.
- Write numbers in expanded notation. (e.g., $1,111 = 1,000 \times 1 + 100 \times 1 + 10 \times 1 + 1$).
- Estimate answers using all four functions.
- Order numbers, fractions, percents and decimals from least to greatest.
- Determine place value from ten-thousandths to billions.
- Round numbers to the nearest million, hundred thousand, ten thousand, tenth, hundredth.
- Determine the greatest common divisor.
- Add and subtract with negative numbers.
- Determine prime numbers.
- Transcribe numerals into words.
- Rearrange a given set of numerals to find the largest and the smallest numbers possible.

Measurement

- Convert within a system of measurement (86 ounces = 5 pounds 6 ounces).
- Determine the appropriate unit of measurement to use (e.g., centimeters, meters or kilometers to measure the length of a knife).
- Add, subtract, multiply and divide with money.
- Determine percent of a coin given other coins (e.g., what percent of a dime is a nickel?).
- Continue time sequence patterns (e.g., 1:46, 1:57...).
- Figure simple interest.
- Determine profit given a set of data.
- Determine hours as a fraction of a day (e.g., what fraction of a day is 8 hours).
- Determine seconds as a percent of a minute (e.g., what percent of one minute is 10 seconds).
- Add hours and minutes to a given time.
- Determine time using more than one time zone.

Geometry

- Identify the radius, diameter and center of a circle.
- Find the area and perimeter of a triangle and quadrilateral.
- Determine the area of a square given the length of one side.
- Determine the third angle of a triangle given the other two.
- Identify right, obtuse and acute angles.

Data Analysis, Statistics and Probability

- Interpret information from a graph.
- Interpret information from a Venn diagram.
- Determine what information is missing in order to solve a word problem.
- Demonstrate an understanding of simple probability.

Optional Prealgebra Lessons

- Recognize and use the math verbs correctly in a math sentence (greater than, greater than or equal to, less than, less than or equal to, equals).
- Explore the powers of 10, both positive and negative, by moving the decimal place accordingly.
- 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.
- Solve problems using the distributive, commutative and associative properties.
- Use scientific notation to represent large and small numbers.
- Describe a pattern using variables.
- Name and draw points on the xy-coordinates.
- Graph the solution to an equation on the xy-coordinates.
- Demonstrate an understanding of slope as rate of change.
- Calculate the slope given two points on a line or the equation for a line.
- Graph linear functions.
- Draw the image of a polygon under a translation or a reflection.
- Solve problems involving supplementary and complementary angles.
- Identify the legs and the hypotenuse of a right triangle.
- Translate words to algebraic expressions or equations.
- Create and apply an algebraic equation to solve a real life situation.
- Justify responses to problems.
- Find the next term, the constant difference and a rule for an arithmetic sequence.
- Generalize a solution to solve a new problem.
- Demonstrate an understanding of size change and its effect on the perimeter and area of a geometric figure.
- Make conclusions from a stem-and-leaf plot.
- Identify the range, mean, median and mode of a data set.
- Create a box-and-whisker plot from a data set.
- Demonstrate an understanding of "or" and "and" in a probability problem.
- Use the circumference and area formulas to solve problems involving circles.
- Solve algebraic equations.
- Find the third side of a right triangle using the Pythagorean Theorem.
- Demonstrate an understanding of absolute value.
- Identify the leading coefficient, degree, number of terms and constant of a polynomial.
- Determine whether or not a sample group is biased.

7. $\frac{5}{8} \times \frac{1}{3} =$ _____

8. Mental math:

a. $323 \times 100 =$ _____ b. $63,600 \div 100 =$ _____

9. Two angles of a triangle are 33° and 42° . What is the third angle? _____

10. Arrange these decimals in order from least to greatest:

.041

.014

.004

.001

11. Willie spent \$10 on Monday. On Tuesday he spent $\frac{1}{2}$ of what he spent on Monday. On Wednesday he spent $\frac{1}{5}$ of what he spent on Monday. How much did he spend altogether in the 3 days?

12. Calculator skill: Find the value of this number using a calculator: $2,731^2$

7. What is the greatest common factor for these numbers? 63, 54, 81

8. Mental math:

a. $28,050 + 3,050 =$ _____ b. $5,420 - 4,421 =$ _____

9. a. $3\frac{1}{6} \times 1\frac{1}{10} =$ _____ b. $\frac{1}{2} \div 1\frac{1}{4} =$ _____

10. Find the value of n: $180 \div n = 6$ $n =$ _____

11. The first week of school Kim studied 11 hours and 25 minutes. The second week he studied 9 hours and 45 minutes and the third week 10 hours and 58 minutes. How much time did he study for these 3 weeks?

12. Probability: A die with 6 faces is tossed. If the faces are numbered from 1-6, what is the probability that the die will land on a number:

a. higher than 5? _____ b. lower than 3? _____

For problems 1 – 4, simplify.

1. $|-5|$

2. $-|-5|$

3. -5^2

4. $(-5)^2$

5. Convert each of the following:

a. 32 in. = _____ ft.

b. 48 oz. = _____ lb.

c. 10 ft. = _____ yd.

d. 6 qt. = _____ gal.

6. The wavelength of x-rays, in centimeters, is 3.048×10^{-9} . Rename this number in decimal notation. _____

7. 28 is what percent of 50?

a. Write the number sentence (equation) to represent this situation.

b. Solve this equation.

8. Everything in a store is discounted 10%. The original price of an iPod is \$249.99.

a. Find the new price. _____

b. If sales tax is 6%, then what will be the final cost? _____

9. Calculate each quotient. Use a bar to show repeating decimals.

a. $\frac{2}{3}$ _____

b. $\frac{1}{6}$ _____

c. $\frac{5}{6}$ _____

d. $\frac{1}{9}$ _____

e. $\frac{1}{7}$ _____

f. $\frac{1}{11}$ _____

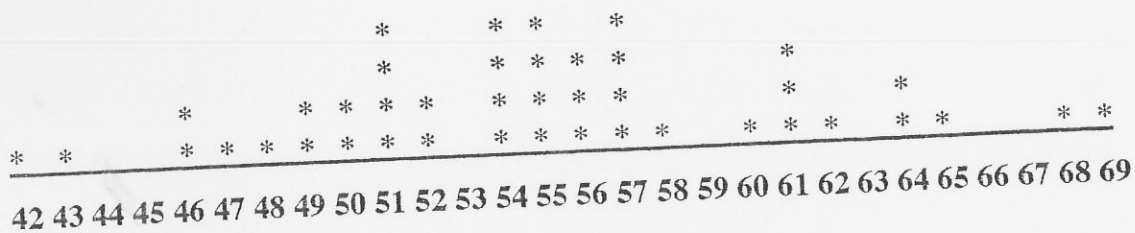
10. What number am I?

- a. The sum of my digits is 9.
- b. I am odd.
- c. I am more than 100.
- d. I am a power of 3.

11. Write in exponential form.

- a. $4 \times 4 \times 4 \times 4 \times 4$ b. $2.1 \times 2.1 \times 2.1$ c. $y \times y \times y \times y \times y \times y \times y$
- _____

12. Below is a graph that shows the ages of the American Presidents at the time of their inauguration.



- a. What is the range of the ages? _____
- b. What is the median age? _____
- c. Theodore Roosevelt was the youngest President ever elected. How old was he at the time of his inauguration? _____
- d. How many Presidents were 50 or younger at the time of their inaugurations? _____