Name _____

Summer Math for New 8th Grade Students

Mathematical Reasoning

1.) If Julio walks $3\frac{1}{2}$ miles in $1\frac{1}{4}$ hours, find the unit rate that he walked.

2.) Greta uses 3 ounces of pasta to make $\frac{3}{4}$ of a serving of pasta. How many ounces of pasta are there per serving?

3.) A submarine dives 300 feet every 2 minutes, and 6,750 feet every 45 minutes. Find the constant rate at which the submarine dives. Give your answer in feet per minute and in feet per hour.

4.) Leroi and Sylvia both put $100 in a savings account. Leroi decides he will put in an additional $10 each week. Sylvia decides to put in an additional 10% of the amount in the account each week. Who has more money after the first additional deposit? Explain.

5.) Eugene wants to buy jeans at a store that is giving $10 off everything. The tag on the jeans is marked 50% off. The original price is $49.98. Find the total cost if the 50% discount is applied before the $10 discount

6.) Between the hours of 10 P.M. and 6 A.M., the temperature decreases an average of $\frac{1}{2}$ of a degree per hour. How many minutes will it take for the temperature to decrease by 5 °F?

7.) A diver begins at sea level and descends vertically at a rate of $2\frac{1}{2}$ feet per second. How long does the diver take to reach -15.6 feet?

8.) Jane withdrew money from her savings account in each of 5 months. The average amount she withdrew per month was $45.50. How much did she withdraw in all during the 5 months?

9.) Write a two-step equation that involves multiplication and subtraction, includes a negative coefficient, and has a solution of $x = 7$.

10.) A mountain climbing team is camped at an altitude of 18,460 feet on Mount Everest. The team wants to reach the 29,029 foot summit within 6 days. Write an inequality to find the average number of feet per day the team must climb to accomplish its objective.

11.) The drawing plan for an art studio shows a rectangle that is 13.2 inches by 6 inches. The scale in the plan is 3 in.:5 ft. Find the length and width of the actual studio. Then find the area of the actual studio

12.) Angles *GHF* and *FHE* are adjacent. What is the sum of the two angles?

13.) Suppose that you know that $\angle T$ and $\angle S$ are supplementary, and that $m\angle T = 3(m\angle S)$. How can you find $m\angle T$?

Computation

1.) Simplify $7(9k + 6m)$

2.) Simplify $(-0.25x - 3) - (1.5x + 1.4)$

3.) Factor $2x + 12$

4.) Factor $4x + 16$

5.) $5.3 \times 0.6 =$

6.) Solve $-2x = 34$

7.) Solve $y - 3.5 = -2.1$

8.) Solve $9s + 3 = 57$

9.) Solve $4d + 6 = 42$

10.) Solve $x + 5 < -12$

11.) Simplify $6(3a+7a-4)$

12.) Solve $5h - 4 \geq 11$

13.) Find the probability of rolling a 12 using two number cubes.