**GSE Algebra Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**TEST Unit 1 Form B**

**Write the following as an algebraic expression**

1. Double the sum of 6 and a number 2. Four less than a number

3. the difference of twice a number and ten 4. A number to the fifth power

Write the following algebraic expression in words.

5. 2x + 2 6. x – 6

7. The formula for finding time is where R is the rate, D is the distance, and T is the time. A bicyclist took a ride that lasted 5 hours. He travelled at an average rate of 11 mph. What was the distance that the cyclist travelled in miles?

8. The sum of three consecutive even integers is 132. Find the largest of the three integers

9. The width of a rectangle is 6 inches less than the length and the perimeter of the rectangle is 76 inches. Find the width of the rectangle.

10. One positive number is 3 less than twice another number. The sum of the two numbers is 129. Find both numbers.

11. You are taking a course that has five tests. To get a B in the course, you must have an average of at least 80% on the five tests. Your scores on the first four tests were 67, 94, 71, and 89. What must you score on the fifth test to get a B for the course? Is it possible to get an A?

12. Six years ago, Chris bought a car for $3000 that decreased in value by 4% annually. The equation represents the value of the table given the original cost P, a rate of increase of r, **expressed as a decimal**, and time t, in years. What is the current value of the table?

13. 15. Some doctors use a person’s body mass index (BMI) as a health risk indicator. The formula, , can be used to calculate a person’s BMI where *w* represents the weight in pounds and *h* represents the height in inches. A person with an index of less than 19 or greater than 27 indicates an increased risk for health problems. Catelyn is 5’9” tall and weighs 110 pounds. **Is her health at risk? Why or why not?**

1 mile (mi) = 5280 feet (ft) 1 pound (lb) = 454 grams (g)

1 yard (yd) = 3 feet (ft) 1 kilogram (kg) = 2.2 pounds (lb)

1 foot (ft) = 12 inches (in) 1 gallon (gal) = 4 quarts (qt)

1 centimeter (cm) = 10 millimeters (mm) 1 quart (qt) = 946 milliliters (mL)

2 cups (c) = 1 pint (pt)

1 inch (in) = 2.54 centimeters (cm)

Fill in the metric conversions acronym to help you with the following problems:

14. Convert 152 feet to centimeters

15. Convert 112,340 seconds to days

16. Convert 15 milliters to Liters

17. Convert 5 gallons to mL

18. Convert 8kg to mg.

19. Convert 40 cm per second to miles per minute. Round to 3 decimal places.

20. The length of the side of a particular square may be expressed as 1200 centimeters, 13.9 yards, 12,000 millimeters or 0.091 miles. Which unit is the BEST of these to express the square's perimeter in?

1. Miles
2. Yards
3. Centimeters
4. Millimeters

21. If you were to measure the volume of an ice cube in your freezer, what would be a reasonable unit to use?

1. Cubic feet
2. Cubic miles
3. Square feet
4. Cubic inches

22. Solve for F:  23. Solve for D: 

24. Solve for a:  25. Solve for r: 

26. Constructed Response

Explain how you would solve for x: y = mx + b