GSE Algebra 1 **Unit 0 Test Review** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Jimmy is spending twelve less than double the amount of money that Jane spends on groceries. If Jane spends *x* amount of dollars, write an **expression** that represents the amount that Jimmy spends.
2. Ashley is 6 years less than triple her grandfather’s age. What would be the **expression** for this?
3. We are building a pen for our pigs. One side is 4 less than triple the other. Write an expression for the perimeter so you know how much fencing to buy for the pigs?
4. **Simplify** the following
	1. (4x3 + 1x - 6) + (x2 + 2x + 5) b. $(5xy - 4x + 9y^{2}) - (10 - 18x + 9xy) $

1. **Multiply** the following polynomials.
	1. $(4x-1)(5x+4)$ b. $x^{4}(5x^{4}-10x^{3}+x^{2}-9x+14)$
2. Calculate the **area** and **perimeter** of the rectangle

Area: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Perimeter: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

$$3x-7$$



$$5x+4$$

1. What is the coefficient in the term 5x4? \_\_\_\_\_\_\_\_\_ What does **coefficient** mean? (explain in words)
2. How many terms does the expression have: 3x4 + 2x3 - 5xy + 4

What is a term? How are terms split up?

1. a. Simplify $\sqrt{6}$(3 - $\sqrt{3}$) b. Simplify $(4-2\sqrt{3})(7+6\sqrt{3})$
2. Simplify the following: $\sqrt{300x^{4}y^{7}}$
3. A rectangle has a total perimeter of $\sqrt{72}$ and a side length of $4\sqrt{3}$. What is the length of the other side?
4. Find the perimeter of the following:

$$\sqrt{9}- 2\sqrt{12}$$

1. Your grandmother has bought a rectangular table that has side lengths of $3\sqrt{3}$on two sides and $2\sqrt{24}$on the other two sides. What would be the **area** of the table your grandmother has?

$7\sqrt{3}$ - 4$\sqrt{6}$

$$\sqrt{5}+ \sqrt{24}$$

1. Your pool is filling up at a rate of 1200 gallons/hour. What would be the speed in liters/second?

(1 gallon = 3.785 liters)

1. You are driving at a speed of 90 meters/hour. What is your speed in inches/min? (3.3 ft = 1 m, 12 in = 1 ft)
2. The approximate distance from EJCHS to Walmart is 18 miles. What would be the distance centimeters?

(1 km = 0.621 miles)

1. The distance that Mrs. Forrester walks around the classroom is 14,500 feet per week. What is the distance in km per hour? (2.54 cm = 1 in)
2. State if the value is rational or irrational: $\sqrt{121}-\sqrt{25}+4$
	1. Rational or irrational? (**circle** **one**)
	2. Explain (how do you know)
3. State if the value is rational or irrational

4$\sqrt{8}$ + 7 - 5$\sqrt{2}$

1. Rational or Irrational? (**circle** **one**)
2. Explain (how do you know) :
3. The **product** of two **rational** numbers is **always / sometimes / never** rational. (circle the best choice)
	1. Show 2 examples of this with numbers
4. The **sum** of two **irrational** numbers is **always / sometimes / never** irrational. (circle the best choice)
	1. Show 2 examples of this with numbers
5. Use the formula given: $d=v^{2}t$ where velocity, *v*, is cm/sec and time, *t*, is sec. What are the units for d?