Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Unit 1 Test Review**

**Unit Conversions. Round to 3 decimal places.**

* There are 5280 feet in one mile
* There are 0.034 ounces in one milliliter
* There are 0.454 kg in one pound
* There are 1.6 kilometers in one mile
* There are 73 gallons in 2 barrels
* There are 1.05 quarts in one liter
* There are 4 quarts in one gallon
* There are 16 ounces in a pound.

1. Convert 90 pounds to ounces.

2. Convert 10 kilometers to miles.

3. Convert 100 barrels to quarts.

4. Convert from 0.37 miles to: a) feet, b) inches, c) meters, and d) kilometers.

5. How long does a car traveling at 70 mph take to travel 230 miles, in hours?

**Short Answer. Show all of your work, including the equations.**

6. For the expression 12x2 + 15x + 10, find any coefficients, factors, and the number of terms.

7. April is moving apartments. Her family needs to rent a UHaul truck to transport their furniture. The rental company charges $19.99 for the truck. Then, they charge $0.20 per mile. Write an equation that represents how much it will cost to use the truck where x = the miles driven. How much will it cost if the family drives it 40 miles? If they end up spending $34.99, how far did they have to drive?

8. You need a plumber to come to your house. Pete charges $50 to come your house and $75 per hour he is there. Paul charges $75 to come to your house and $50 for each hour he is there. Write an equation to represent the charges for both plumbers. Who is cheaper for 3 hours worth of work?

9. If the number of roaches triples every day, and there are 10 to start with, write an equation to represent this situation. How long will it take to have over 2,000 roaches?

10. Jennifer is buying 10 boxes Girl Scout cookies at x dollars apiece. Shipping is $8. Write an expression to represent this situation.

11. Dequan and some friends went to play mini golf. Their total cost was $40.29, which included taxes of $4.29. Write an algebraic expression to represent the price of each mini golf game, not including taxes. Let x represent the number of Dequan’s friends that went to the movies.

12. Bill is building a sand box for his son to play in. The length is 2 feet more than the width. He has 20 feet of boards. What are the dimensions of his sand box?

13. Mary is going to the store to get some ice cream for her party. Her mom gave her $15 to spend. She wants to get a combination of ice cream sandwiches at $3 per box and gallons of Breyers ice cream at $5 each.

1. Write an equation in standard form to model this situation where s is the number of boxes of sandwiches, and b is the gallons of Breyers.
2. Solve the equation in terms of s, the number of boxes of ice cream sandwiches.
3. If she buys 3 boxes of sandwiches, how many gallons of Breyers can she get?

**Solve the formula for the indicated variable. Show all of your work.**

14. For **r**: V = πrh 15. For **y**: 7x + 14y = -21 16. For **h**: 

**Solve the following exponential equations. Show all of your work.**

17. 

18. 