Algebra II – Mrs. Tilus Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Unit 1 Review

1. Solve each equation and show your steps.

a.) b.)

c.)

2. Match each term/symbol with the appropriate definition or example.

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| A. Example of an equation | A value that makes an equation or inequality true. |  |
| B. Example of an expression | A number in front of a variable. |  |
| C. Example of an inequality | Two inequalities joined by the word “or”. It is true when at least one of the solutions is satisfied. |  |
| D. Conjunction | Tells us how many times to multiply a number or variable by itself. |  |
| E. Disjunction |  |  |
| F. Solution/Root | When no value of x will make the equation a true statement, the solution set is \_\_\_\_\_\_\_\_\_\_\_\_ |  |
| G. {} |  |  |
| H. {} |  |  |
| I. Coefficient | When an equation is true for all values and is therefore an identity, the solution set is \_\_\_\_\_\_\_\_ |  |
| J. Exponent | Two inequalities joined by the idea “and”. It is true when both solutions of an open sentence are satisfied. |  |

3. Answer True/False.

a.) If 3a.) \_\_\_\_\_\_\_\_\_\_

b.) If 3b.) \_\_\_\_\_\_\_\_\_\_

3c.) \_\_\_\_\_\_\_\_\_\_\_

is a conjunction. 3d.) \_\_\_\_\_\_\_\_\_\_\_

e.) The solution to is {x: x = 3 or x = -3} 3e.) \_\_\_\_\_\_\_\_\_\_\_

4. Solve the following formula for h.

a.) b.)

5. Represent each word phrase by an algebraic expression.

a.) Two less than five times a number. 5a.) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b.) Four times the sum of a number and three. 5b.) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c.) The quotient when eight is divided by twice a number. 5c.) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. At noon, two trains leave the same station, and they are traveling in opposite directions. One train is traveling at three times the speed of the other train. At 4:00pm they are 480 miles apart. What is the rate of each train?

7. Hank has 35 coins consisting of nickels and dimes with a total value of $2.75. How many of each kind of coin are there?

8. Solve and graph each inequality.

a.) b.)

9. Solve and graph each compound inequality.

a.) b.) or

10. The length of a rectangle is 5 cm more than twice its width. Find the possible widths if the perimeter is at most 64 cm.

11. Solve and graph each absolute value inequality.

a.) b.) │x + 2│ < 3