Meramec Math 160C Quiz 6 Solution Fall 2013

NAME: _____Score_____/15

Please **print** your name **SHOW YOUR WORK !** **State reasons in words when appropriate.**

1. Zero Factor Property: If a and b are real numbers and ab = 0, then **a = 0 OR b = 0**.

2. A **binary operation** is a calculation involving two operands.

3. Two equations are **equivalent** if they have the same solution sets.

4. A linear equation in one variable is an equation that can be written in the form **ax + b = 0** where a and b are real numbers with not both a and b equal to zero.

5. The process to solve a linear equation in one variable is to generate a sequence of equations each **equivalent** to the **previous** equation until a **simplest** equation is obtained.

6. Write $|3x - 7| < 12$ as a compact compound inequality with no absolute value symbol **$-12 < 3x - 7 < 12$**.

7. A formula must be an **equation**.

8. If two expressions represent the same quantity, the two expressions must be **equal**.

9. The complex component of $3 - \sqrt{7}i$ is $-\sqrt{7}$. **(i is not beneath the radical)**

10. A quadratic equation in one variable is an equation which may be written in the form **$ax^2 + bx + c = 0$** where a, b, and c are real numbers and a is not zero.

11. When both sides of an equation are squared the solution set of the resulting equation **contains** the solution set of the original equation.

12. When both sides of an equation are multiplied by an expression containing a variable there is no assurance that the resulting equation will be **equivalent** to the original.

13. The formula for the area of a circle with radius r is: **$A = \pi r^2$**.

14. $|x| = \begin{cases} x & \text{if } x \geq 0 \\ -x & \text{if } x < 0 \end{cases}$

15. In set builder notation the interval [5, 7) = $\{x \mid 5 \leq x < 7\}$.