**Day 6 – Solving by Completing the Square Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Practice Assignment**

1. x2 – 16x – 8 = 0 2. x2 – 8x + 6 = 0

x = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ x = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. x2 – 12x + 10 = 0 4. x2 + 20x – 15 = 0

x = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ x = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. x2 + 14x + 5 = -5 6. x2 + 6x – 18 = -9

x = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ x = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Defend:**

Matt is trying to solve the following problem by completing the square:

x2 – 18x + 6 = 0

He believes he has got the answer and wants to compare it with his classmate, Marcus. He says,“Hey Marcus, I got x = 9 + 5$\sqrt{3 } and 9- 5\sqrt{3}$, what did you get?”

Marcus replied, “hmm that’s weird I got x = 9 + $\sqrt{75 } and 9 - \sqrt{75}$.”

Matt then says “well we both got the 9 part so we have similar thinking, lets ask Tiffany!”

Tiffany looks at their work and says “ I got the same thing as Matt I just combined like terms and got x = 14$\sqrt{3 } and 4\sqrt{3}$.”

More confused than ever they call over Mrs. Dombrowski. She assures them that one of them has the correct answer…

 *Who is correct? Explain.*

**Error Analysis:**

Describe and correct the error Emma made when attempting to solve by completing the square.

Problem: x2 + 20x – 8= 0 a. What was Emma’s mistake when solving by completing the square?

*Emma’s Process:*

x2 + 20x – 8 = 0

x2 + 20x + \_\_\_\_\_ = 8 + \_\_\_\_\_

x2 + 20x + 10 = 8 + 10

(x + 10)2 = 18

x + 10 =  b. Solve the problem correctly below.

x = -10 

**Answer:** x = -10 ****