**Centre 8 – Patterning & Algebra Journal**

**![C:\Users\p0036168\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\NOX7JTGT\MC900048213[1].wmf]()Choose one or more of the following prompts to think about and/or discuss with a partner, then respond in your journal. Remember to check the “effective journal” criteria posted at the front of the room.**

**1. Choose two numbers. Call them x and y.**

**Option 1**: The pattern rule is: Start at x and add y. Can the 100th term by 900 greater than the 10th term? If so, how? If not, why not?

**Option 2**: The pattern rule is: Multiply the term number by x and add y. Can the 100th term be 900 greater than the 10th term? If so, how? If not, why not?

**Reflection Questions (for both 1 & 2 above)**:

What if x and y were 4 and 8; what would the 10th term be? The 100th term? What if they were 4 and 6? What if they were 4 and 10? What did you notice about your patterns? Could the 100th term be 900 greater than the 10th term? How did you figure it out?

**2. Order these values from least to greatest.
 Will your order be the same no matter what the value of n is? Explain.**

**Option 1**: $\frac{n}{2}$ , 3n , n2 , 3n + 1 , 10 – n

 **Option 2** : 4n , 3n , 10n , 3n + 1 , 5n + 2 – n

 **Reflection Questions (for either option above)**:

 Suppose n = 0. Would your ordering change? Suppose n = - 1. Would your ordering change? How do you know that 3n < 3n + 1 no matter what value n has?

**3. Write a word problem to match one of the following equations:**

**Option 1**: 28n + 75 = 215

**Option 2**: 4n + 3 = 27

**Reflect:**
How does your problem use the *coefficient* of n? How does it use the *constant*?
What led you to the situation you used in your problem?