

MAT. 3420 – Teaching Mathematics PreK-6
Algebraic Thinking

Name _____ Section _____

1. Relational Thinking. *Without* computing, complete the following. Explain your reasoning.

a. $73 + 56 = 71 + \underline{\hspace{2cm}}$

b. $20 \times 48 = \underline{\hspace{2cm}} \times 24$

c. $126 - 37 = \underline{\hspace{2cm}} - 40$

d. $68 + 58 = 57 + 69 + \underline{\hspace{2cm}}$

2. Sketch a Graph. Create a graph for the following situation. Label the axes of the graph and indicate key events on the graph.

Temperature of a frozen dinner from 30 minutes before it comes from the freezer until it comes from microwave and is placed on the table.

3. Repeating Patterns. Create a ABBC repeating pattern and record five repetitions.

a. Circle one “core” in the pattern you created.

b. What element is in the 526th position of the pattern you created? Explain.

c. In which position would you find the 15th “B”?

4. Growing Patterns. Consider pattern (d) in Figure 15.8 (p. 271).

a. How many rods are needed for the 10th figure in the pattern? Explain using recursive relationships.

b. How many rods are needed for the 10th figure in the pattern? Explain using functional relationships.