Problem of the Week

I have to say, I love patterns and relations. I think this mathematical strand is significant in student learning. It is here that students can examine the relationships amongst numbers, pictures, concrete objects, etc., and communicate the patterns that are present within the context. I wanted to provide tasks that would address multiple mathematical concepts – and I believe that these tasks do.

I have attempted to create tasks that may be novel to students so that they are applying their problem solving strategies to arrive at the solution. As always, I will provide opportunities for primary, elementary and secondary.

Be mindful that during these prompts, it is important the teacher listens to student conversations and asks questions that illicit student thinking.

Primary	Tammy and Sanjay were each making patterns for the other to solve. Tammy shared that she used 28 and 40 as two numbers in her number sequence. Sanjay shared that he also used 28 and 40 as two numbers in his number sequence. Would the pattern rule for Tammy's number sequence and pattern rule for Sanjay's number sequence be the same or different? How do you know?
An extension: *Increase the amount of numbers in common.* *State whether each used the same type of pattern – increasing or decreasing.*	

Elementary	Gilbert and Desiree had a disagreement about patterns. Gilbert said that he could make an input-output table using the following numbers: 5 8 26 9 4 23 14 7 20 26 Desiree tried arranging the numbers into an input-output table, but was unable to find a way that fit an expression. She said that the numbers couldn't be arranged to fit an algebraic expression. Who is correct, Gilbert or Desiree?

Intermediate	The following input-output table has 2 errors. There are the same number of errors in the input column as the output column. Identify the errors and record the expression represented in the table.

Input	Output
6	22
12	46
10	28
16	62
14	54