

# Problem of the Week

The problems that follow focus on algebra. More specifically, students will explore patterns. The tasks are meant to be open-ended so that discussion can support understanding.

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

<b>Primary</b>	The fifth term in a pattern is 12. Can you create a repeating, increasing and decreasing pattern that each has 12 as a fifth term?
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<b>Elementary</b>	Create an input-output table that meets the following criteria: <ul style="list-style-type: none"><li>• All numbers in the output column are odd.</li><li>• All numbers in the input column are even.</li><li>• Each input number is smaller than the corresponding output number.</li></ul> What is the pattern rule?
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<b>Intermediate</b>	Create an equation that meets the following criteria: <ul style="list-style-type: none"><li>• One expression consists of one variable, whole number coefficients and two operations.</li><li>• The other expression consists of one variable, whole number coefficients, a set of brackets and two operations.</li><li>• The value of the variable is 8.</li></ul> Record and solve the equation.
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