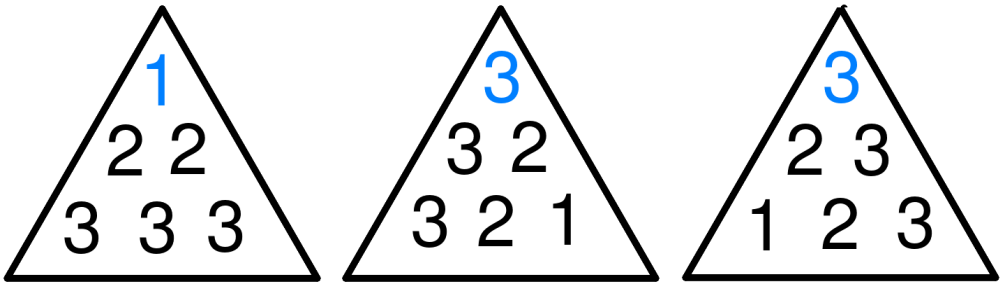

Problem. Explain how the equation below describes the picture above:

$$3(1^2 + 2^2 + 3^2) = (1 + 2 + 3)(1 + 2 \times 3)$$

This is the $n = 3$ instance of a more general identity. Providing the general identity, or even the $n = 4$ instance, is acceptable in lieu of an explanation.

Hint. Each triangle has six positions. Between the three triangles, the sum of all three numbers in a given position doesn't depend on the position.

Submit your solution online by scanning QR code and filling out the form, or submit at

`sites.google.com/unomaha.edu/unopow`

A photo of handwritten work is fine. You can also turn in solutions physically at the UNO math department's mail room (located on the second floor of the Durham Science Center).