PROBLEM OF THE WEEK #9

(Fall 2021)

Let $\{a_n\}$ be a sequence of positive integers with

$$\frac{a_1}{a_2} = \frac{a_1 + a_2}{a_3 + a_4} = \frac{a_1 + a_2 + a_3}{a_4 + a_5 + a_6} = \ldots$$

Prove that a_2 is divisible by a_1.

[Please fully explain your answer.]

Email solutions to kwonmi@uwplatt.edu by 2:00pm on Wednesday, November 17, 2021.

Every week, the best solution submitted earns a $10 Platteville gift certificate; the top scorer each semester also wins a cash award. Good luck!
You can always see the Problem of the Week (and complete rules) online at:

http://uwpmath.weebly.com/