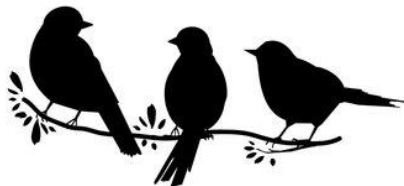


Week #2 Fall 2022



Problem of the Week



How many birds will there be on the 5th day?

A bird enthusiast has been watching the birds in her garden each day and has noticed something interesting. On the first day, there were just three birds—one cardinal, one nut hatch, and one finch. On the second day there were 12 birds (more of each type). On the third day there were 50 birds, but even more interesting was the number of birds of each species. The enthusiast noticed that when she paid attention to the individual species, the number of birds was growing by a constant factor. For example, there was 1 finch on the first day, 3 finches on the second day, and 9 finches on the third day (each day had three times as many as the previous day). The growth factors from species to species was different, but each species of bird was growing by a constant factor. On the fourth day the same thing happened and in total there were 216 birds.

How many birds will there be on the fifth day?

Undergraduates may submit solutions to the Mathematics Department office, 1150 FAB **or** by email to waynepotw@gmail.com by noon 10/4/2022. Include your name, ID number, and whether you have completed Math 2030 (or higher). For more information go to <https://clas.wayne.edu/math>. Solutions will be posted online and throughout the math department after the deadline.