Math 8E: Unit 4.1: Linear relations and Patterns

The great misconception about mathematics is the notion that mathematics is about formulas and cranking out computations. It is the unconsciously held delusion that mathematics is a set of rules and formulas that have been worked out by God knows who for God knows why, and the student's duty is to memorize all this stuff.

Mathematics is not about answers, it's about processes.

-Dr. Robert H. Lewis, Professor of Mathematics, Fordham University

Part of what mathematics does is try to find order from chaos. We do this by looking for patterns, and trying to explain or predict future possible patterns.

Ex: Christopher finds that his Instagram follower list grows in this order: day 0: 1, day 1:4, day 2: 7, day 3: 10, day 4: 13, day 5: 16.

1. What is the pattern that describes Christopher’s friend list?
2. On day 55, if the pattern holds, how many Instagram followers will he have?

Ex: Owen owns the YouTube channel ‘Watch me play Minecraft’. He gets paid $0.03 per view from each unique IP address. How can Owen predict his future income?

Ex: Melissa has a webpage design business. She charges a consultation fee of $100 and then $80 per hour of work. Suzanne also has a webpage design business. She charges $90 per hour. Mathew needs a webpage for his business ‘Canucks Souvenir Shop’. At what point is Melissa a better deal, and when is Suzanne a better deal?

Ex: Miucci and Sayan are botanists. They are counting the whorl of seeds in a sunflower, when they notice the pattern is: 1, 1, 2, 3, 5, 8, 12,… Predict the next 3 numbers.

WB: pg 121 #1-6 (3 from each), #9, 10, 12

MMS9: pg 160 #14-16