Worksheet Day 1: Mathematical Exploration

January 13, 2020

Goal of this activity: To explore the skills and strategies that go into the creative process of conjecture and proof.

Your mission, should you choose to accept it, is to
1. Make an interesting conjecture that relates the number of edges, vertices, and faces of a polyhedron.
2. Prove the statement.
3. Record your observations about how the process works.
4. You may not look up things on your phone.

Some inspiration:

- “If I had an hour to solve a problem I’d spend 55 minutes thinking about the problem and 5 minutes thinking about solutions.” – Albert Einstein
- “Any time scientists disagree, it’s because we have insufficient data.” – Neil deGrasse Tyson.
- “From where we stand the rain seems random. If we could stand somewhere else, we would see the order in it.” – Tony Hillerman, Coyote Waits
- “I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail.” – Abraham Maslow
- “It is better to solve one problem five ways than to solve five problems one way.” – George Polya
- “There ain’t no rules around here! We’re trying to accomplish something!” – Thomas Edison