EECS 70 Discrete Mathematics and Probability Theory
Spring 2014 Anant Sahai

Discussion 1B

The theorem to prove is the following:

Sum of the first n consecutive positive integers. For any positive integer n, we have,

$$1 + 2 + \ldots + n = \frac{n\,(n+1)}{2}$$

1. **Do some examples**

   Before proving something, always try it out first.

2. **Draw your examples**

   Draw a picture of the example to see if you can engage your geometric intuition.

3. **Proof by logical reasoning**

   Reason about this directly.

4. **Proof by contradiction**

   See why if it were not true, something would go wrong.

5. **Proof by induction**

   Use the machinery of induction to prove it.