Jonathon Sonesen CS 251 Graph Theory Knowledge June 11, 2015 Collaborators:Jeff Patterson, Steven Wetherebee, Kyle Kneitenger

1 State presisiley (but concisely) in your own words what it mean for an argument to be valid.

An argument is considered valid if it's premise and conclusion are logically sound.

2 Prove (or disprove).

$$\forall n \in \mathbb{Z}, n \ge 3 \to \sum_{i=3}^{n} i(i-1) = \frac{(n-2)(n^2+2n+3)}{2}$$