

# HANDOUT: Outline for Induction Proofs

CLAIM: For all integers  $n \geq a$  **[PUT GOAL]** is true

PROOF:

Let  $P(n)$  be **[PUT A DEFINITION OF  $P(n)$ ]**

We use induction.

Basis step: **[PUT AN ARGUMENT FOR  $P(a)$ ]**

Induction step: **[PUT AN ARGUMENT THAT  $P(k)$  IMPLIES  $P(k+1)$ ]**

Thus by the principle of mathematical induction  $P(n)$  is true for all integers  $n \geq a$ .

END PROOF.