

MATH 102: IDEAS OF MATH

WORKSHEET 8: INDUCTION (CONT.)

Question 1. Show that

$$1 \cdot 3 \cdot 5 \cdots (2n-1) = \frac{(2n)!}{2^n n!}.$$

Question 2. What is the difference between regular induction and strong induction?

Question 3. Prove the Fundamental Theorem of Arithmetic.

Every integer $n \geq 2$ is either prime or a unique product of primes.

Question 4. Discuss Fake Proposition 4.11. and Fake Proposition 4.12.