

Skill Mastery Quiz - Dylan L. L2, P2, S2

Communicating in Math (MTH 210-01)

Winter 2020

L2-token State the definition of even integer precisely:

An integer n is even provided that...

Outline a proof that if x is even and y is odd then xy is even. (Make sure to include key details - like what things are integers.)

P2-token Which of the following situations is it more appropriate to use induction?

1. For all integers a , $a^3 \equiv a \pmod{3}$.
2. For each natural number n ,

$$1 + 3 + \cdots + (2n + 1) = n^2.$$

– Explain your choice.

– Outline the steps you would do in a proof by induction.

S2-token Let $U = \{x \in \mathbb{Z} : 1 \leq x \leq 10\}$ be the universal set. Let $A = \{1, 2, 4, 8\}$ and $B = \{4, 7, 9\}$.

1. Find $A \cap B$
2. Find $A \cup B$.
3. Find $A - B$.
4. Find A^c .