

**Problem 2.**

**Theorem:** For every integer  $m$ , if  $m$  is even then  $3m + 5$  is odd

*Proof.* Let  $n \in \mathbb{Z} \ni n$  is odd

By definition of odd,  $k = 2$

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**Problem 9.**

If an integer greater than 4 is a perfect square, then the immediately preceding integer is not prime

*Proof.*

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**Problem 23.**

The product of any even integer and any integer is even.

*Proof.*

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