

CSC165 fall 2017

Mathematical expression:
proofs

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Web page:

<http://www.teach.cs.toronto.edu/~heap/165/F17/>

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Using Course notes: Proof



Outline

defining, unpacking

existential

universal

notes



$a \mid b$ and $Prime(p)$

statements packed and unpacked



There is a real solution to $x^2 + 2x + 3 = 11$

prove $n^2 + 2n + 5 > 4$ if $n \in \mathbb{N}$



prove $n^2 - 5n > 7$ for most $n \in \mathbb{N}$



prove $n \mid n + 3 \Rightarrow n \mid 3$ for $n \in \mathbb{N}$

generalize $n \mid n + 3 \Rightarrow n \mid 3$ for $n \in \mathbb{N}$

prove $m, n \equiv 1 \pmod{3} \Rightarrow mn \equiv 1 \pmod{3}$

$m, n \in \mathbb{N}^+$ and $m \mid n \Rightarrow m \leq n$



Notes