Ex. A.9 If n is even then n^2 is even

$n = 2k$

$n^2 = (2k)^2 =$

Ex. A.11 If $x + y > 100$ then $x > 50$ or $y > 50$

Ex. A.12 If n^2 is even, then n is even.

Ex. A.13 If n is the sum of the squares of two odd integers, then n is not a perfect square

Ex. A.15 If n is an integer, then $n^3 - n$ is even

Homework: prove A.3 # 11 either by contradiction or contrapositive.

100. Prove the sum of two odd integers is odd
101. Prove if n is any integer, then $n^2 + n$ is even
102. Prove if $xy > 100$ and x and y are both positive real numbers, then $x > 10$ or $y > 10$
103. Show that $((p \wedge r) \rightarrow q) \wedge ((p \wedge \sim r) \rightarrow q)$ is logically equivalent to $(p \rightarrow q)$
104. Show that $((p \wedge \sim a) \rightarrow b)$ is logically equivalent to $p \rightarrow (a \vee b)$