Print this out [if I don't] and answer these True - False as part of HW 2. These are intended for review of proof strategies and possible weak spots in Exam 1. So, they are not all traditional TF questions, and you may have to make some judgement calls.

Suppose you asked to prove something of the form $p \vee q$ and are given something of the form $\forall x, p(x)$. Then your proof will probably include a sentence of the form "Set $x = \ldots$".

Suppose you asked to prove something of the form $p \vee q$ and are given something of the form $r \wedge s$. Then a typical proof might include "Assume p is false".

Suppose you asked to prove something of the form $p \vee q$ and are given something of the form $r \rightarrow s$. Then a typical proof might include "Assume p".

Suppose you asked to prove something of the form $p \wedge q$ and are given something of the form $r \vee s$. Then a typical proof might start with "Case 1. Assume r."

Suppose you asked to prove something of the form $p \rightarrow q$ and are given something of the form $r \vee s$. Then a typical proof might include "Assume p.".

Suppose you asked to disprove something of the form $\exists x, p(x)$. Then a typical proof might start with "Assume $\exists x, p(x)$, to get a contradiction".

Suppose you asked to prove something of the form $\exists x, p(x)$. Then a typical proof might start with "Let x be arbitrary".

Suppose you asked to prove something of the form $A \subseteq B$. Then a typical proof might start with "Assume $x \in A$".

Suppose you asked to prove something, given that $A \subseteq B$. Then a typical proof might start with "Assume $x \in A$".

Suppose you asked to disprove something of the form $\forall x, p(x)$. Then a typical proof would include [near the end] "So, $p(x)$ is true".

Also, prove that if $\lim_{x \to a} f(x) = L$ then $\lim_{x \to a}[5f(x) + 2] = 5L + 2$ using the defn. This is similar to Ch 3.7.8.