Question:	1	2	Total
Points:	4	6	10
Score:			

1. (4 points) Consider the following atomic propositions:

   - p = "You did the homework."
   - q = "You studied for the exam."
   - r = "You passed the course."

   Express each of the following compound propositions as an English sentence:

   a. $p \wedge q$

   > **Solution:** "You did the homework and you studied for the exam."

   b. $q \longrightarrow r$

   > **Solution:** "If you studied for the exam, then you passed the course."

   c. $(\neg p \vee \neg q) \longrightarrow \neg r$

   > **Solution:** "If you did not do the homework or you did not study for the exam, then you did not pass the course."

2. (6 points) Fill in the truth table for the compound proposition: $(\neg p \vee \neg q) \longrightarrow \neg r$:

Solution:

p q r	$\neg p$	$\neg q$	$\neg p \vee \neg q$	$\neg r$	$(\neg p \vee \neg q) \longrightarrow \neg r$
T T T	F	F	F	F	T
T T F	F	F	F	T	T
T F T	F	T	T	F	F
T F F	F	T	T	T	T
F T T	T	F	T	F	F
F T F	T	F	T	T	T
F F T	T	T	T	F	F
F F F	T	T	T	T	T