

MATH 150 QUIZ 2 - Version B

September 16, 2013

Name: ANSWER KEY

Instructions: Use your own scrap paper. Write your answers in the space provided.

1. What is a *sound* (deductive) argument?

a valid argument with true premises

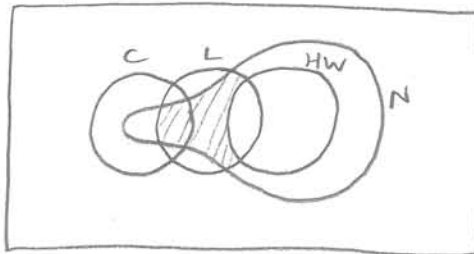
2. What is a *valid* (deductive) argument?

an argument where the conclusion necessarily follows from the premises (if the premises are true, the conclusion will be).

3. For the following argument, (a) draw a Venn diagram and (b) determine if it is valid or invalid.

Premise 1: Some lawyers hate women  
Premise 2: No charming people hate women  
Premise 3: All people who hate women are nasty  
 $\therefore$  Some lawyers are nasty

(a) Venn diagram:



C - charming people  
L - lawyers  
HW - hate women  
N - nasty

(b) Valid or Invalid (circle one).

4. Consider the following argument structure:

If  $P$ , then  $Q$

$Q$  is not true

$\therefore P$  is not true

(a) What is the name of this argument structure? Denying the conclusion

(b) Is the argument valid or invalid? Valid

**Bonus:** Negate the following statement: *No English student knows math 150.*

Some (at least one) English student knows math 150