

**10% of final grade, (11 points graded out of 10)**

**1) Answer each:**

i) Consider this problem and the conclusion provided

*If it is foggy, flights out of SFO are delayed;  
Flights are delayed  
Thus, It is foggy.*

- (a) Deny the Antecedent
- (b) Affirm the Antecedent
- (c) Deny the Consequent
- (d) Affirm the Consequent

ii) Is the above conclusion: \_\_\_ VALID or \_\_\_ INVALID ?

iii) Making a decision based on ease of retrieval of relevant examples from memory. This is an informal approach that can be extremely useful in many situations, but which sometimes produces the wrong answer.

- (a) Representativeness
- (b) Bayes Theorem
- (c) Availability
- (d) Algorithm

iv) Recursively getting closer and closer from the current state towards the solution state illustrates this kind of problem solving:

- (a) Working backwards
- (b) Ill-defined
- (c) Means-end
- (d) conjunctive

**2) Using Technical terms, Describe what Luchin's (1942) "Water Jug Experiment" (as discussed in class and in the text) illustrates AND how it illustrates it.**



**5) Identify four ways in which EXPERTS differ from NOVICES**

- i)
- ii)
- iii)
- iv)

**6) Define each (.2 each after the first correct)**

- i) Heuristic
- ii) Problem Space
- iii) Base rate neglect
- iv) Subjective Probability
- v) Utility
- vi) Euler Circles

**7) Describe one experiment used to investigate “insight” learning AND describe the results/conclusions of the experiment.**

**8) DEFINE: (.2 each after the first correct)**

- i) ILLICIT CONVERSION
- ii) CONFIRMATION BIAS
- iii) RESTRUCTURING
- iv) PRODUCTIVE THINKING
- v) Atmosphere Hypothesis
- vi) Halo Effect

**9) Consider which card or cards would you turn over to obtain conclusive evidence about the following rule for a set of cards with a number on one side and a letter on the other: An even number will have a consonant on the flip side. Circle the relevant letters / numbers that you would need to check.**

A	2	D	7
U	P	3	4

**10) List an additional 4 ways in which to improve problem solving (as discussed in class)**

- a) Increase domain knowledge
- b) Change the problem representation
- c) Automate some components
- d) Follow a systematic plan
- e)
- f)
- g)
- h)

**11) BONUS**

a) Describe an example of the "Simulation Heuristic". Define the Simulation Heuristic and two other related terms.

i) SIMULATION HEURISTIC: (define)

ii) TERM: \_\_\_\_\_: (define)

iii) TERM: \_\_\_\_\_: (define)

b) DESCRIBE THE DIFFERENT APPROACHES TO UNDERSTANDING INTELLIGENCE FROM AT LEAST THREE DIFFERENT THEORISTS

i) THEORIST: \_\_\_\_\_ PERSPECTIVE: (define)

ii) THEORIST: \_\_\_\_\_ PERSPECTIVE: (define)

iii) THEORIST: \_\_\_\_\_ PERSPECTIVE: (define)