

Instructor: Prof. A. Suci

Name: \_\_\_\_\_

**MTH 1101 — QUIZ 7 — FALL 1996**

**Instructions:** Put your name in the blanks above. Put your answers to each question in the designated spaces. Show your work—if there is not enough room, use the back of the page. **Each question is worth 6 points.**

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1) A penny is tossed 3 times.

- a) Enumerate the elements of the sample space  $S$  for this experiment.
  
- b) Enumerate the elements of the event  $A = \{\text{At least two heads come up}\}$ . Compute  $P(A)$ .
  
- c) Enumerate the elements of the event  $B = \{\text{At most one head comes up}\}$ . Compute  $P(B)$ .

2) A 12-sided die with faces numbered 1 through 12 is used in the game Dungeons and Dragons. If such a die is tossed, what is the probability that the number that lands on top is

- a) The number 7?
  
- b) An even number?
  
- c) A number less or equal to 3?
  
- d) A number greater or equal to 8?

3) A basketball player shoots a free throw percentage of 80%. What is the probability that he will make at least one of two free throws?

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4) Let  $A$  and  $B$  be events such that:  $P(A) = 0.6$ ,  $P(B) = 0.3$ ,  $P(A \cap B) = 0.2$ . Find:

a)  $P(A \cup B) =$

b)  $P(A \cup B^c) =$

c)  $P(A^c \cap B) =$

5) Of 10 people: Kimberly Boscombe, Daniel Burhans, Suzanne Cohen, Ryan Conlon, Cherylene Coss, Patricia Dale, Jennifer Embree, Christine LaBreque, Stephanie Libre, and Geoffrey McHugh, 2 will be selected at random for jury duty. What is the probability that both people selected are women?

6) A student filling out the answer sheet to a 6-question true-false test has no idea which statements are true and which are false, and so fills up the answers randomly. What is the probability that the student will get at least 5 correct answers?