

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

Show work needed to justify your answer.

Date: \_\_\_\_\_

HW: # 32a: Math IBSL - Standard 31 - Venn Diagrams and Sample Spaces

5 points

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- 2 In a group of 55 tourists, 30 have cameras, 25 are female and 18 are females with cameras. Find the probability that a tourist picked at random from this group is either a camera owner or a female.

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- 3 A letter is chosen at random from the 26-letter English alphabet. Find the probability that the letter is:
- a in the word MATHEMATICS
  - b in the word TRIGONOMETRY
  - c in the word MATHEMATICS **and** in the word TRIGONOMETRY
  - d in the word MATHEMATICS **or** in the word TRIGONOMETRY.

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- 5 If  $X$  and  $Y$  are two events such that  $P(X) = \frac{1}{4}$  and  $P(Y) = \frac{1}{8}$  and  $P(X \cap Y) = \frac{1}{8}$ , find:
- a  $P(X \cup Y)$
  - b  $P(X \cup Y)'$

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- 7  $A$  and  $B$  are two events such that  $P(A) = \frac{3}{16}$  and  $P(B) = \frac{3}{8}$  and it is known that  $P(A \cup B) = 3P(A \cap B)$ . Find:
- a  $P(A \cup B)$
  - b  $P(A \cup B)'$
  - c  $P(A \cap B)'$