Name KEY

Row # (from the door) _____

Probability (Roll of a Die)

I. A fair die is rolled and the upward face is observed so, $S = \{1, 2, 3, 4, 5, 6\}$. Given $A = \{2, 4, 5, 6\}$ and $B = \{1, 2, 3\}$ find:

1a. A^c $\{1, 3\}$

1b. $P(A^c)$ $\frac{2}{6} = \frac{1}{3} \approx .33$

2a. A and B $\{2\}$

2b. $P(A \text{ and } B)$ $\frac{1}{6} \approx .17$

3a. A or B $\{1, 2, 3, 4, 5, 6\}$

3b. $P(A \text{ or } B)$ $\frac{6}{6} = 1$

4a. A^c and B $\{1, 3\}$

4b. $P(A^c \text{ and } B)$ $\frac{2}{4} = \frac{1}{3} \approx .33$

5a. A^c or B $\{1, 2, 3\}$

5b. $P(A^c \text{ or } B)$ $\frac{3}{6} = \frac{1}{2} = .5$

6. $P(B \mid A)$ $\frac{1}{4} = .25$

7. $P(A \mid B)$ $\frac{1}{3} \approx .33$