

Name: _____

Show work needed to justify your answer.

Date: _____

HW: # 33a: Math IBSL - Standard 32 - Independent and Dependent Events and Conditional Probability 5 points

- 1 There are 27 students in a class. Of the students, 15 take film and 20 take theatre, and four do neither subject.
- a How many students take both subjects?
 - b One person is chosen at random. Find the probability that the person:
 - i takes theatre but not film
 - ii takes at least one of the two subjects
 - iii takes theatre given that they take film.

- 2 A number is chosen at random from this list of eight numbers:
1 2 6 7 11 14 24 29
- Find:
- a $P(\text{it is even} \mid \text{it is not a multiple of 4})$
 - b $P(\text{it is less than 15} \mid \text{it is greater than 5})$
 - c $P(\text{It is less than 5} \mid \text{it is less than 15})$
 - d $P(\text{it lies between 1 and 10} \mid \text{it lies between 5 and 25})$

- 5 J and K are independent events. Given that $P(J|K) = 0.3$ and $P(K) = 0.5$, find $P(J)$.