		Preference for Location		Total
		Hotel	Rec Center	
Preference for Band	Hip-Hop	73	80	
	Classic Rock	55	92	
Total				

Suppose you pick a student at random from this class. Find each of the following probabilities.

    a. P(*prefers hotel*)

    b. P(*prefers hip-hop band*)

    c. P(*prefers hotel and prefers hip-hop band*)

    d. P(*prefers hotel or prefers hip-hop*)

    e. $P(prefers\ hotel|prefers\ hip-hop\ band)$

    f. $P(prefers\ hip-hop\ band|prefers\ hotel)$

3. Recall that events A and B are independent if knowing whether one of the events occurs does not change the probability that the other event occurs.

    a. Using the data from problem 1, suppose you pick a student at random. Find $P(wearing\ sneakers|is\ a\ girl)$. How does this compare to P(wearing sneakers)?

Handwritten: $P(Sneakers|Girl) = \frac{8}{13}$ $P(Sneakers) = \frac{20}{30}$

    b. Are the events *wearing sneakers and is a girl independent*? Why or why not?

Handwritten: No, added condition of Girl probability Changed!

Handwritten left margin: Conditional Prob $P(A|B)$