



What is Your Pizza Preference?



Little Caesar's HOT-N-READY pizzas are the best pizza value in the world. Do you agree?

1. Collect class data to fill in the following table. Each student puts one tally mark in the table.

Two-way table

Choose a Pizza ← *categorical variable*

		Choose a Pizza			Totals
		Meat	Veggie	Cheese	
Do You Like Little Caesars?	Yes	8	7	5	20
	No	7	2	1	10
Totals		15	9	6	30

↑ categorical variable

2. Suppose that we randomly choose a student from class. Find the following probabilities.

$P(\text{Meat}) = \frac{15}{30}$ Mutually exclusive events

$P(\text{Cheese}) = \frac{6}{30}$

$P(\text{Meat or Cheese}) = \frac{15}{30} + \frac{6}{30} = \frac{21}{30}$ $P(A \text{ OR } B) = P(A) + P(B)$

3. Suppose that we randomly choose a student from class. Find the following probabilities.

$P(\text{Yes Little Caesars}) = \frac{20}{30}$ NOT mutually exclusive events

$P(\text{Meat}) = \frac{15}{30}$ $P(A) + P(B) - P(A \text{ and } B) = P(A \text{ OR } B)$

$P(\text{Yes Little Caesars or Meat}) = \frac{20}{30} + \frac{15}{30} = \frac{35}{30} - \frac{8}{30} = \frac{27}{30}$

4. Suppose that we randomly choose a student from class. Find the following probabilities.

$P(\text{Meat}) = \frac{15}{30}$

conditional probabilities

$P(\text{Meat, given the person is Yes Little Caesars}) = \frac{8}{20} = P(\text{meat} | \text{Yes Little Caesars})$ "given that"

$P(\text{Meat, given the person is No Little Caesars}) = \frac{7}{10} = P(\text{meat} | \text{No Little Caesars})$

5. What do your results from #4 tell you about preference for meat pizza and preference for Little Caesars?

If a person likes Little Caesars, they are much less likely to prefer meat pizza.