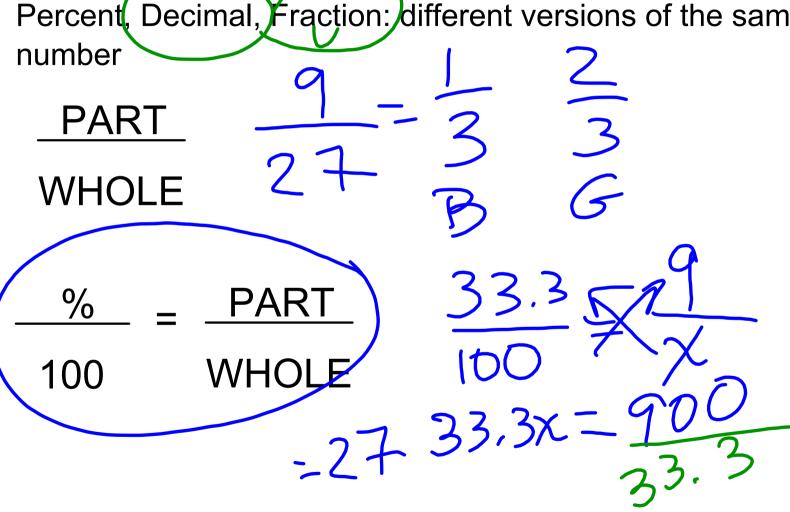
- Topic: Two-Way Relative Frequency Tables
- Objective: Students will be able to identify, complete, and interpret two-way relative frequency tables.
- Standards: AP Stats: UNC-1 (EU), UNC-1.P (LO), UNC-1.P.3 (EK)
   CCSS Math: 8.SP.A.4

• Two-way relative frequency tables show us percentages rather than counts. They are good for seeing if there is an association between two variables.

Percent Decimal, Fraction: different versions of the same



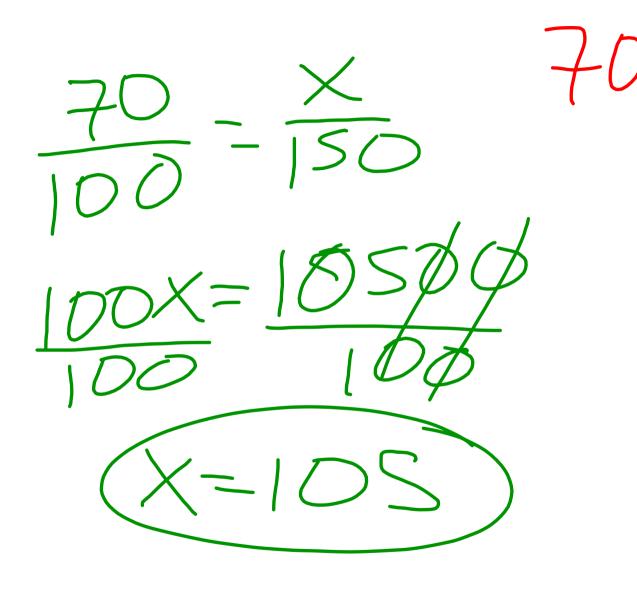
- Percentages:  $\frac{\%}{100} = \frac{PART}{WHOLE}$
- Example: Your shopping for a new pair of sneakers that cost \$150. You found an online coupon for 30% off, what is the sale price of the sneakers?

$$\frac{30}{100} \times \frac{x}{150}$$

$$\frac{30}{100} \times \frac{x}{150}$$

$$\frac{150}{100} \times \frac{150}{100} \times \frac{150}{100}$$

$$\frac{150}{100} \times \frac{150}{100} \times \frac{150}{100}$$



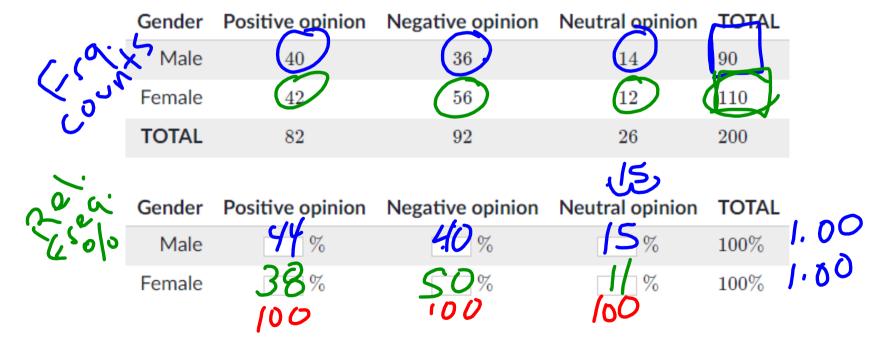
Example 2: You're buying a new laptop for school. The original price is \$900. If the sale price is now \$720. What was the discount you received?

$$\frac{\%}{100} = \frac{PART}{WHOLE}$$

$$\frac{\chi}{100} + \frac{720}{900} = \frac{7200}{900} = \frac{120}{100}$$

$$\frac{100}{200} = \frac{100}{900} = \frac{100}{100}$$

- Part 1: Making a relative frequency table
  - > A university surveyed its 200 students on their opinions of campus housing.
  - > Convert the two-way frequency table of the data into a twoway table of row relative frequencies.
  - > (If necessary, round your answers to the nearest percent.)



- Part 2: Reading a relative frequency table
  - > What percent of males had a negative opinion of campus housing? Round your answer to the nearest percent.
  - > What percent of females had a negative opinion of campus housing? Round your answer to the nearest percent.

Gender	Positive opinion	Negative opinion	Neutral opinion	TOTAL
Male	40	36	14	90
Female	42	56	12	110
TOTAL	82	92	26	200

Gender	Positive opinion	Negative opinion	Neutral opinion	TOTAL
Male	%	(40%)	%	100%
Female	%	(50%)	%	100%

- Part 3: Seeing a relationship in a two-way relative frequency table
  - Based on the relative frequencies from above, which is a valid



- Part 3: Seeing a relationship in a two-way relative frequency table
  - > Based on the relative frequencies from above, which is a valid conclusion about the relationship between gender and opinion in this data?

Choose 1 answer:				
A	There is an association between gender and opinion. Males are more likely to have a negative opinion of campus housing.			
B	There is an association between gender and opinion. Females are more likely to have a negative opinion of campus housing.			
C	There is no association between gender and opinion.			

Gender	Positive opinion	Negative opinion	Neutral opinion	TOTAL
Male	40	36	14	90
Female	42	56	12	110
TOTAL	82	92	26	200
Gender	Positive opinion	Negative opinion	Neutral opinion	TOTAL
Male	%	<u></u> %	%	100%
Female	%	%	%	100%

We saw that 40 percent of males had a negative opinion of housing, while about 51 percent of females had a negative opinion of housing.

There is an association between gender and opinion. Females are more likely to have a negative opinion of campus housing.