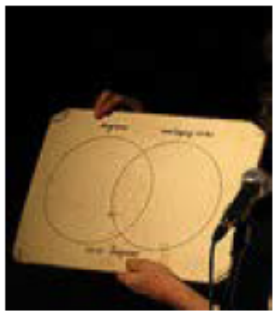
Questions on 9.3? Probability Quiz today...

Mar 28-10:02 AM

9.4 Visualizing with Venn

A Solidify Understanding Task



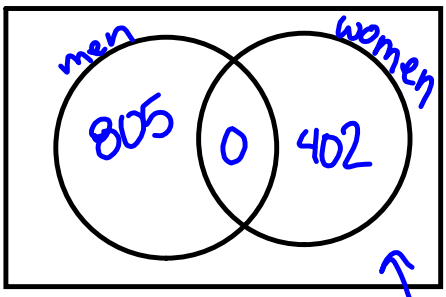
One of the attributes of Venn diagram's is that it can be easy to see the relationships within the data. In this task, we will create multiple Venn diagrams using data and determine the events that create diagrams to either have an intersection or for them to be mutually exclusive.

1. The following data represents the number of men and women passengers aboard the titanic and whether or not they survived.

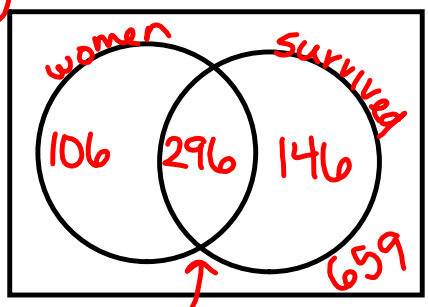
	Survived	Did not survive	Total
Men	146	659	805
Women	296	106	402
Total	442	765	1207

2. Create three Venn diagrams with this data.
   a. Men vs Women
   b. Women vs Survived
   c. You choose the conditions

(a)

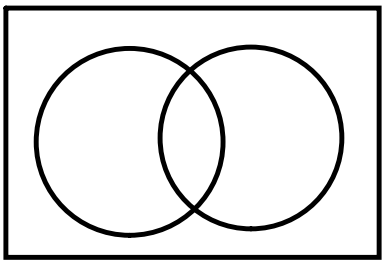


(b)



not mutually exclusive events have an intersection

(c)



mutally exclusive events cannot happen at the same time.

3. Create two probability statements using each of your Venn diagrams from question 2.

a) $P(W) = \frac{402}{1207} =$

$P(M) = \frac{805}{1207} =$

b) $P(S|W) = \frac{296}{402} =$

$P(NS|M) = \frac{659}{805} =$

c) P(
PC

4. Create and label three different Venn diagrams using this data. Create at least one that is mutually exclusive and at least one that has an intersection.

Sample size: 100

$P(\text{girl}) = \frac{42}{100}$

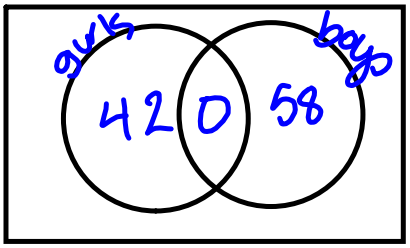
$P(\text{girl or art}) = (\frac{42}{100} + \frac{30}{100}) - \frac{12}{100}$

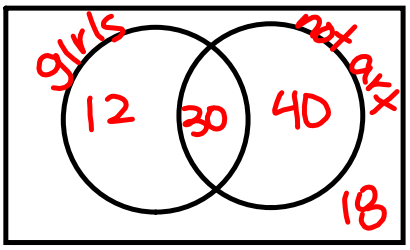
$P(\text{art}) = \frac{30}{100}$

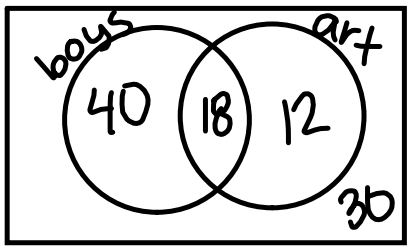
$P(\text{not art}) = \frac{70}{100}$

$P(\text{boy}) = \frac{58}{100}$

P(g∩a)







5. Describe the conditions that create mutually exclusive Venn diagrams and those that create intersections.

events that cannot happen at the same.

6. What conjecture can you make regarding the best way to create a Venn diagram from data to highlight probabilities?

Do not create a Venn diagram that is mutually exclusive.

Homework

Finish 9.4 "Ready, Set, Go"

Mar 28-9:36 AM