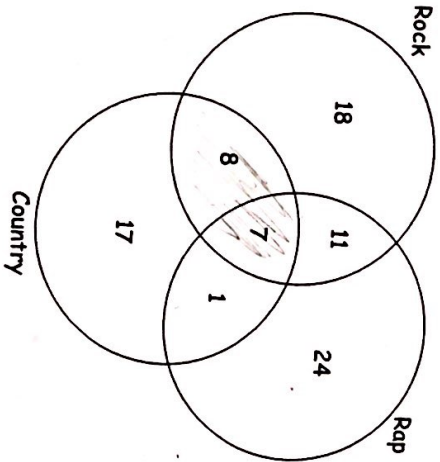


Lesson 4 - Probabilities and Venn Diagrams

Use the Venn Diagram below to answer question #1 - 5.



1. How many total people are represented in the diagram? 81

2. How many people like country? 17+8+7+1 = 33

3. If one person is chosen at random, what is the probability that that person will like rap music?

$$P(\text{rap}) = \frac{24 + 7 + 1 + 1}{81} = \frac{43}{81} = 50\%$$

4. If one person is chosen at random, what is the probability that that person will like country or rock music?

$$P(\text{country or rock}) = \frac{17 + 8 + 11 + 7 + 1}{81} = \frac{44}{81} = 54\%$$

5. If one person is chosen at random, what is the probability that that person will like country and rock?

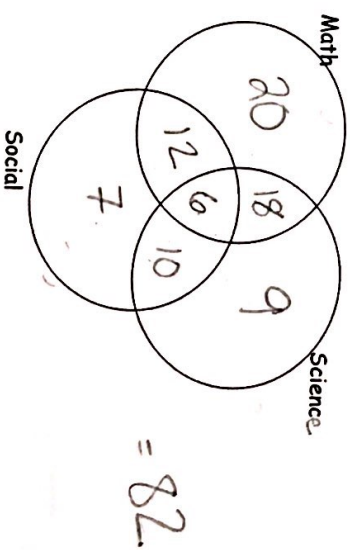
$$P(\text{country and rock}) = \frac{8 + 7}{81} = \frac{15}{81} = 17.4\%$$

Lesson 4 - Probabilities and Venn Diagrams

Use the following information to fill in the Venn Diagram below.

82 100 people were asked if they liked Math, Science, or Social Studies. Everyone answered that they liked at least one. NO OUTLIERS

- 56 like Math - 36
- 43 like Science - 34
- 35 like Social Studies - 28
- 18 like Math and Science
- 10 like Science and Social Studies
- 12 like Math and Social Studies
- 6 like all three subjects



$$= 82$$

6. How many people like Math only? 20

7. How many people like Science only? 9

8. If one person is chosen at random, what is the probability that that person will like Science and Math? 18+6 = 24/82 = 29.3%

9. If one person is chosen at random, what is the probability that that person will like Math? 20/82 = 24.4%

10. If one person is chosen at random, what is the probability that that person will not like Science? 20+12+7 = 39/82 = 47.6%

11. If one person is chosen at random, what is the probability that that person will like Science or Math? 75/82 = 91.5%

12. If one person is chosen at random, what is the probability that that person will like Science but not math? 19/82