

Section 2.4 – Using Venn Diagrams to Solve Problems

Example

1000 people participated in a drug screening program. Here are the results:

- 134 people tested positive for drug use
- 50 people were actual drug users
- 44 people were drug users who tested positive

Use a two-set Venn diagram to sort the data.

1. How many false positive tests were there?
2. How many people tested negative?
3. How many false negative tests were there?

Example

Out of 20 students taking an exam, 15 answered the first bonus question, 13 answered the second bonus question, and 2 did not attempt either of the two bonus questions. How many students answered both bonus questions?

Example

One hundred professionals were asked how they obtained their daily news. Here are the results:

- 70 got their news from television or radio (T)
- 51 got their news from print materials such as newspapers or magazines (P)
- 70 got their news from online sources (O)
- 47 got their news from both T and O
- 39 got their news from both T and P
- 36 got their news from both P and O
- 28 got their news from all three T, O, and P

Organize these results using a Venn diagram.

1. How many professionals did NOT get their daily news from any of these three sources?
2. How many professionals got their daily news from exactly two of these sources?