Venn Diagrams

When you are making a Venn diagram for a project, your client or customer can easily view and interpolate the data from the image. We will create a Venn diagram for the following figures:

130 farmers were surveyed regarding the type of livestock they raise. These are the numbers:

Farmers with cows:	50
Farmers with pigs:	38
Farmers with sheep:	39
Farmers with cows and pigs:	17
Farmers with sheep and pigs:	21
Farmers with cows and sheep:	25
Farmers with all three:	10

Now that we have the data, draw a rectangle representing the universal set. Within that area, draw three overlapping circles labeled as “Cows”, “Pigs” and “Sheep” as shown in Figure 1.

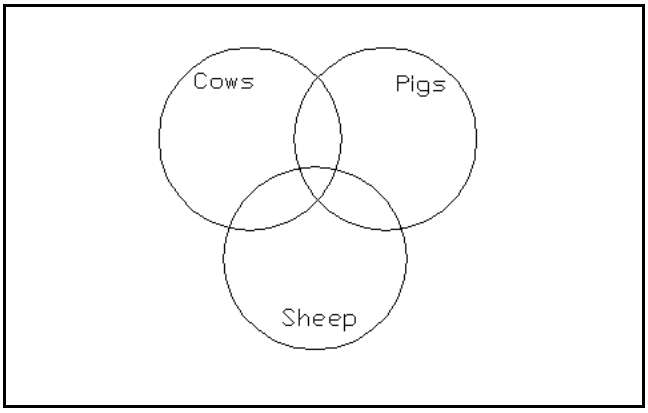


Figure 1 – Labeling the Venn Diagram

Next, place the number 10 in the middle segment shared by all three circles as shown in Figure 2.

Now, the next step is to compute the figure for the segment for “farmers with cows and pigs only”. From the table above that amount is 17 and we subtract from 10 middle segment to get 7. Write the 7 in the segment as shown in Figure 3.

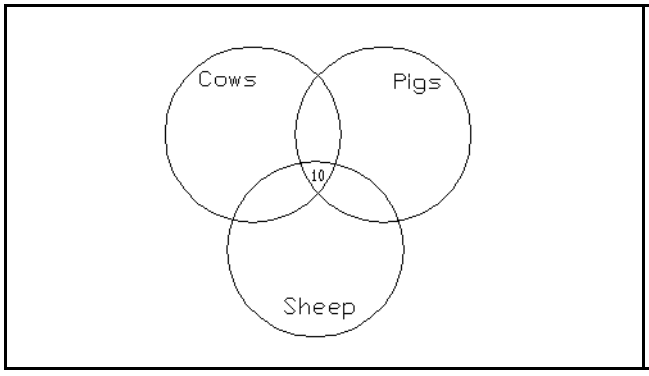


Figure 2 – Showing the “All Three” Data

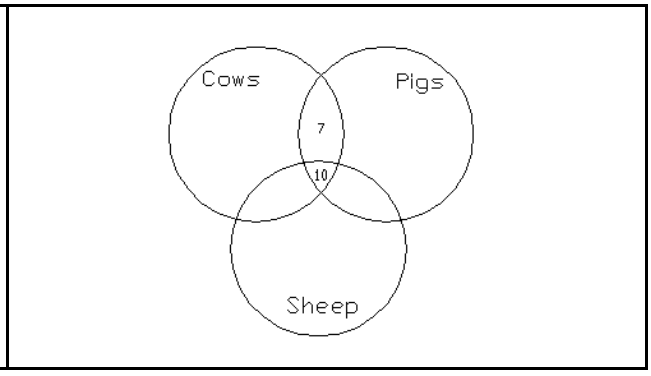


Figure 3 – Cow and Pigs Data

At this instant, the subsequent step is to calculate the number for the segment “farmers with sheep and pigs only”. From the table above that amount is 21 and we subtract the 10 shown in the middle section to get 11. Write the 11 in the sector as shown in Figure 4.

Then we will compute the amount for the segment “farmers with sheep and cows only”. From the chart above that quantity is 25 and we subtract the 10 in the middle section to get 15. Write the 15 in the segment as shown in Figure 5.

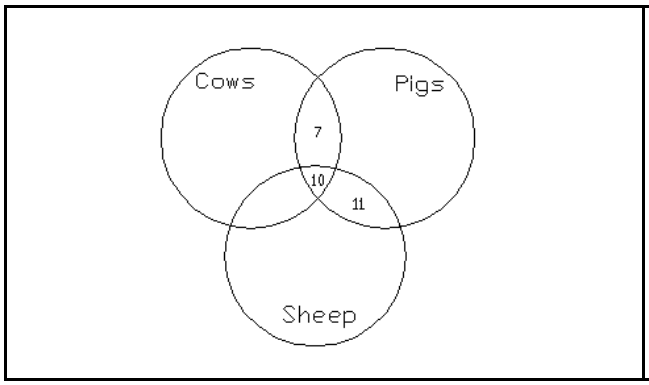


Figure 4 – Sheep and Pigs Data

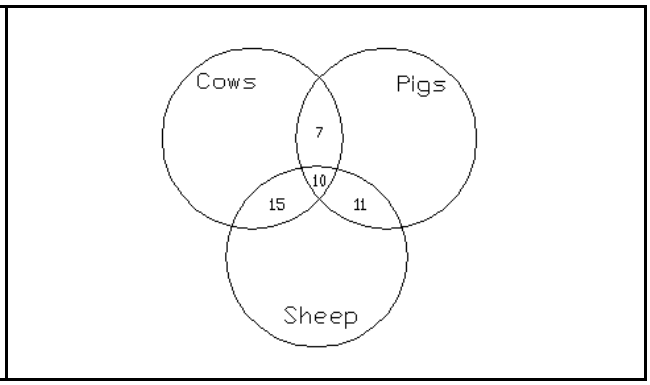


Figure 5 – Cow and Sheep Data

To find the number for the farmers with sheep only, take the number of "farmers with sheep" which is 39 and subtract 15, 10 and 11, which are numbers already in the circle. 39 – 15 – 10 -11 = 3
Write the 3 in the segment as shown in Figure 6.

To find the quantity for the farmers with cows only, take the number of "farmers with cows" which is 50 and subtract 15, 10 and 7 which is 18. Write the result in the segment as shown in Figure 7.

To find the digit for the farmers with pigs only, take the number of "farmers with pigs" which is 38 and subtract 7, 10 and 11 which is 10. Write the result in the segment as shown in Figure 8.

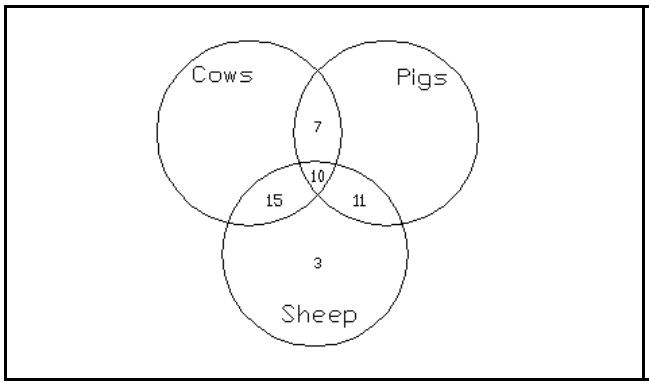


Figure 6 – Computing Sheep Only Data

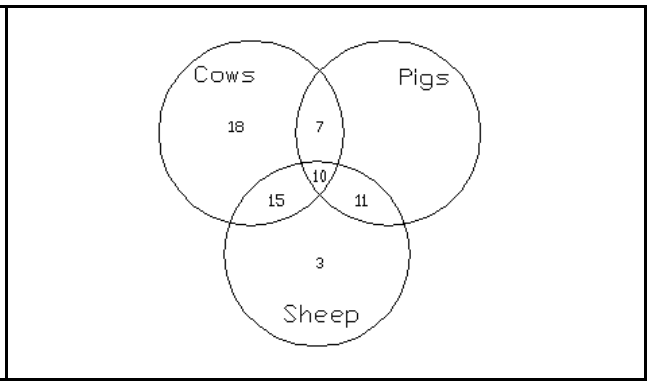


Figure 7 – Computing Cows Only Data

To compute the number of farmers without any pigs, cows and sheep add the data of farmers with cows (50), farmers with pigs (38), farmers with sheep (39) which results in 127. There were 130 farmers' surveys, so 130 - 127 leaves 3 in the universal set not within the three circles. Record the 3 as shown in Figure 9. Your Venn diagram is finished.

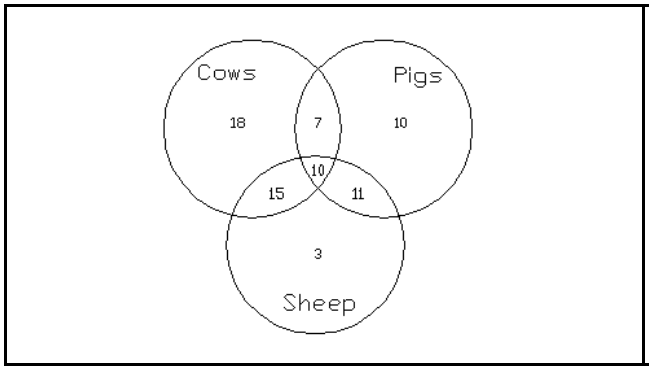


Figure 8 – Computing Pigs Only Data

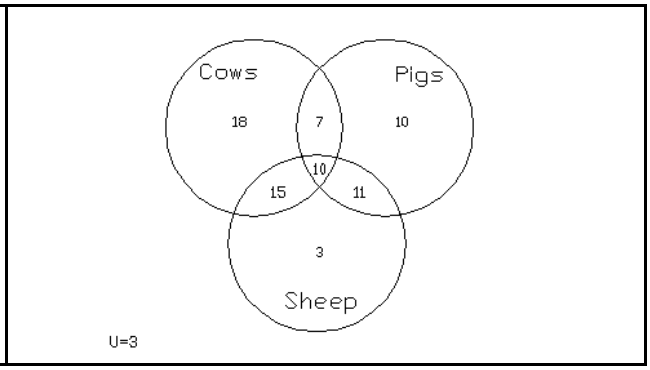
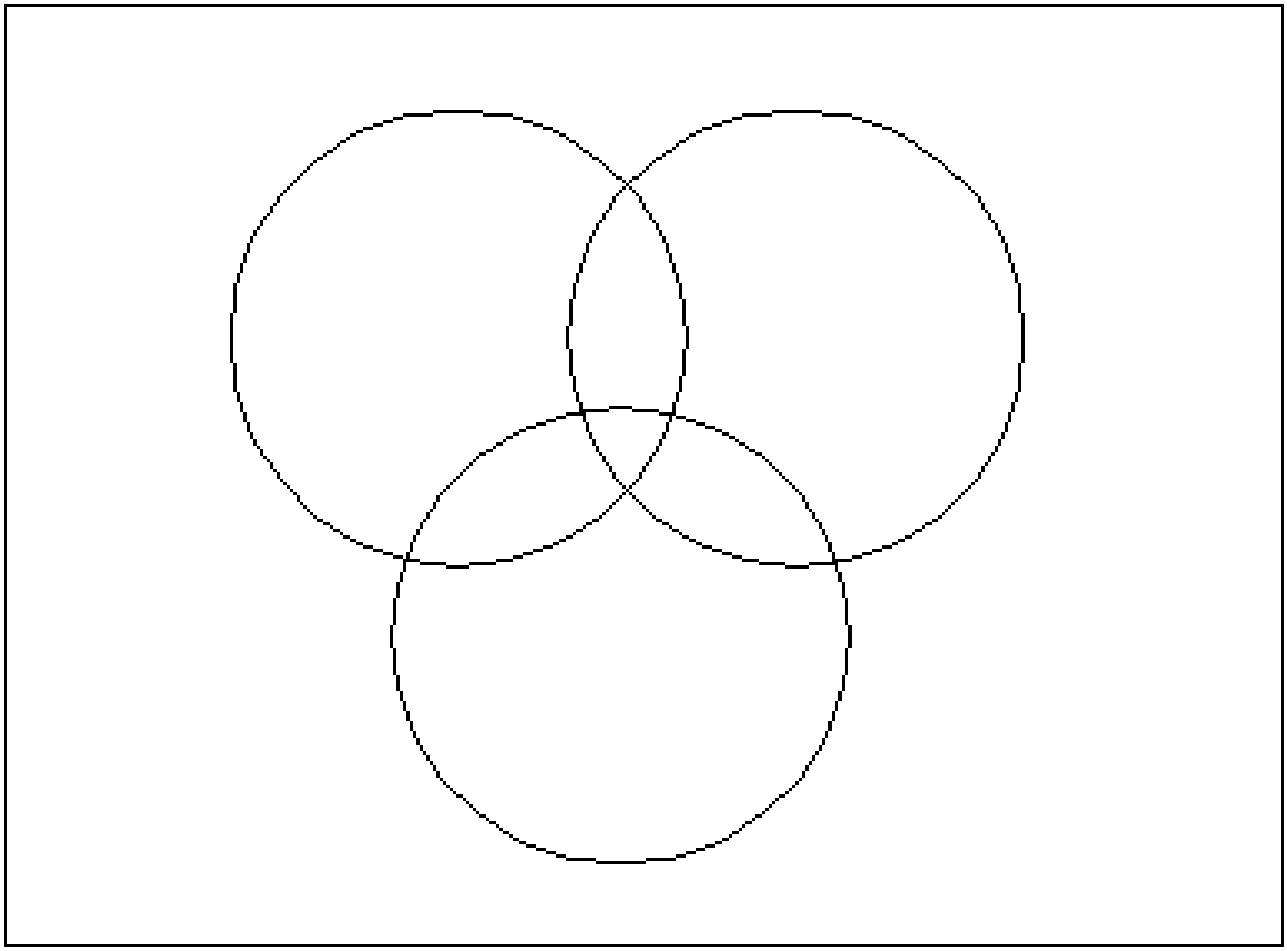


Figure 9 – Computing the Universal Set

Venn Diagrams

150 birdwatchers were surveyed regarding the type of birds they saw. These are the numbers:

Cardinals:	49
Hummingbirds:	40
Bluebirds:	46
Cardinals and hummingbirds:	22
Bluebirds and hummingbirds:	29
Cardinals and bluebirds:	15
All three:	5



Venn Diagrams

250 zoologists were surveyed regarding the type of reptiles they raise. These are the numbers:

Anacondas:	71
Rattlesnakes:	101
Pythons:	45
Anacondas and rattlers:	12
Anacondas and pythons:	21
Rattlers and pythons:	15
All three:	11