

Part 5.3: Venn Diagrams Exercise 2

1. At a restaurant one night 25 groups of people come through.
 - All of them order something
 - None of them just order entrees
 - 2 groups have entrees, mains and desserts
 - 8 have both entrees and mains
 - 12 have entrees
 - 3 have both mains and desserts
 - 12 have desserts
 - a. How many groups have mains?
 - b. How many groups have entrees and desserts?
 - c. What is the probability a randomly chosen group has exactly 2 courses?

2. A car dealership sells cars.
 - 55% of them have tow bars
 - 45% of them are manual
 - 40% of them have sunroofs
 - 30% of them are manuals with tow bars
 - 20% don't have either a tow bar or a sun roof and 20% are manuals with sunroofs
 - 15% of them have a tow bar and a sun roof
 - 10% of them are manuals with both a tow bar and a sun roof

What percentage of cars:

 - a. Are not manual but have a tow bar?
 - b. Do not have a sunroof but do have a tow bar?
 - c. Are not manual and do not have a sun roof or tow bar?

3. Fifty students in a year level are asked if they have been to Africa, North America and Asia.
 - The same number of students have been to just Africa as have been to just North America
 - Double the number of students have been to just Asia as have been to just Africa
 - The same number of students have been to both North America and Asia as have not been to any of the three continents.
 - 23 students have been to more than 1 of the continents.
 - 8 students have been to all 3 continents
 - 2 more students have been to Africa and Asia than have been to Africa and North America
 - 19 students have been to Africa
 - 11 students have travelled to North America and Africa

What is the probability student chosen at random

 - a. Has travelled to all 3 continents?
 - b. Has only Africa?
 - c. Has travelled to Africa and Asia?

Part 5.3 Answers

1a. 16	2a. 25%	3a. 0.16
1b. 6	2b. 40%	3b. 0.38
1c. 0.44	2c. 15%	3c. 0.26