Part 5.1: Venn Diagrams Exercise 1

1. An insurance company does a survey of their customers (all of whom have either car or house insurance). They find the proportion of customers that have house insurance is 0.7, and the proportion that have both house and car insurance is 0.6. What is the proportion that:
   a. Just have car insurance?
   b. Have car insurance?
   c. Don't have car insurance?

2. When customers come into a dairy, 45% of them buy milk and 55% of them buy bread. 20% of them buy neither bread nor milk. What percentage of customers:
   a. Buy both bread and milk?
   b. Do not buy milk?
   c. Buy bread or milk but not both?

3. In a survey done of students at a school, 0.3 were found to have iPhones and 0.45 were found to have Chromebooks. 0.2 had a Chromebook but did not have an iPhone. What proportion of students:
   a. Did not have an iPhone?
   b. Had neither an iPhone nor a Chromebook?
   c. Had both a Chromebook and an iPhone?

4. In 2014, the number of fatal injuries in New Zealand was 1,797. Of these 1,125 were males. Males also were involved in 4,875 serious (but non-fatal) injuries. In total there were 11,295 serious or fatal injuries in 2014.
   a. How many males were injured in total?
   b. How many serious (non-fatal) injuries were there in 2014?
   c. How many of the serious (non-fatal) injuries were not male?

Part 5.1 Answers

1a. 0.3	2a. 20%	3a. 0.7	4a. 6,000
1b. 0.9	2b. 55%	3b. 0.5	4b. 9,498
1c. 0.1	2c. 60%	3c. 0.25	4c. 4,623