

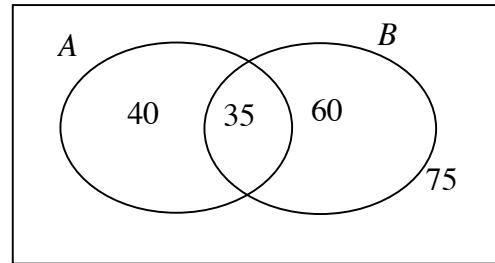
- (1) Given the Venn Diagram at the right find the following

(a) $n(A \cap B)$

(b) $n(A \cup B)$

(c) $n(\overline{A \cap B})$

(d) $n(A|B)$



- (2) The table shows the partial results from a survey. Use the table to answer the following questions.

Car Type	Satisfied	Unsatisfied	Totals
New	300	100	
Used	450		600
Totals		250	

- (a) If a person buys a used car, what is the probability they are unsatisfied?
- (b) If a person buys a car, what is the probability that they bought a new car and that they are satisfied?
- (c) If a person buys a car, what is the probability that they bought a new car or that they are satisfied?
- (3) A queen is drawn from a standard deck of cards. If the card is not returned to the deck, what is probability that the next card drawn from the deck is a king?
- (4) A queen is drawn from a standard deck of cards. If the card is returned to the deck, what is probability that the next card drawn from the deck is a king?
- (5) Seven cards are drawn from a standard deck. What is the probability that the cards contain exactly two queens and three kings?
- (6) A multiple choice test consists of 10 questions, with five choices for each question. If you blindly guess at the answers, what is the probability of getting at least one question correct?
- (7) Give an example, in English, of mutually exclusive events.

- (8) A deck of cards contain 3 red cards and 7 black cards. Two cards are drawn from the deck, without replacement.
- (a) Complete the following
- P(drawing 0 red cards) =
 - P(drawing 1 red card) =
 - P(drawing 2 red cards) =
- (b) Based on the results from part (a) what is the expected number of red cards drawn?
- (9) A federal study showed that in 1990, 49% of all those involved in a fatal car crash wore seat belts. Of those in a fatal car crash, who wore seat belts, 44% were injured and 27% were killed. For those not wearing seat belts, the comparable figures were 41% and 50%, respectively.
- (a) What is the probability that a randomly selected person involved in a fatal crash was killed?
- (b) What is the probability that a randomly selected person who was killed in a car crash was wearing a seat belt?

- (10) A company produces 1000 refrigerators per week at three plants. Plant *A* produces 350 refrigerators a week, Plant *B* produces 250 refrigerators per week, and Plant *C* produces 400 refrigerators per week. Production records indicate that 5% of the refrigerators produced at Plant *A* will be defective, 3% of those produced at Plant *B* will be defective and 7% of those produced at Plant *C* will be defective.
- (a) Draw a tree diagram that shows the probability of a refrigerator being defective or not defective, based on where the refrigerator is produced.
- (b) Based on your tree diagram, find the probability that a refrigerator was produced at Plant *A* or Plant *B*, and that the refrigerator was not defective.