Chapter 2 Probability

True/False Questions

1. Objective probability involves personal judgment or intuition in a given context.

   Answer: False Type: Concept Difficulty: Easy

2. Those elements that are not in Set A are called the complement of A.

   Answer: True Type: Concept Difficulty: Easy

3. The set of all basic outcomes of an experiment is called the union of the set.

   Answer: False Type: Concept Difficulty: Easy

4. In the experiment of tossing a fair die once, the sample space includes six events.

   Answer: True Type: Concept Difficulty: Easy

5. The probability of event A is defined as the number of ways event A can occur, divided by the number of outcomes possible in the experiment.

   Answer: True Type: Concept Difficulty: Easy

6. In the experiment consisting of drawing one card at random from a standard deck of 52 cards, the sample space for the event of drawing a seven consists of 2 outcomes.

   Answer: False Type: Concept Difficulty: Easy

7. The probability of drawing a seven, from a standard deck of 52 cards, is 1/4.

   Answer: False Type: Computation Difficulty: Easy

8. If event A consists of the event of drawing a red card from a standard deck of 52 cards, then the complement of event A is the event of drawing a black card from this deck.

   Answer: True Type: Concept Difficulty: Easy

9. The intersection of two sets includes all elements that are part of either set, or both sets.

   Answer: False Type: Concept Difficulty: Easy

10. The probability of event A, an event that is certain to occur, is one.

    Answer: True Type: Concept Difficulty: Easy

11. The probability of drawing a card, chosen at random from a standard deck of 52 cards, which is either a diamond or a club is 0.5.

    Answer: True Type: Computation Difficulty: Medium

12. Two events which are mutually exclusive events, are also complements of each other.

    Answer: False Type: Concept Difficulty: Medium

13. When two events, A and B, are independent, then the product of their individual probabilities is equal to the probability that both events occur, or $P(A) \times P(B) = P(A \cap B)$.

    Answer: True Type: Concept Difficulty: Medium

14. In order to count the number of ways that a committee of three, including a chair, a secretary, and a treasurer, could be chosen from a group of ten people, a combination would be used.

    Answer: False Type: Concept Difficulty: Medium

15. The probability of any particular event, or combination of events, can be larger than one in certain specific cases.

    Answer: False Type: Concept Difficulty: Easy

16. The probability of rolling a 7 on a pair of dice is higher than rolling any other number.

    Answer: True Type: Computation Difficulty: Medium

17. If the probability of rolling a 2 on a pair of dice is 1/36, the probability of not rolling a 2 is 35/36.

    Answer: True Type: Computation Difficulty: Easy

Chapter 2 Probability

Multiple Choice Questions

18. One out of three mini-vans sold by a nationwide auto dealer has a hidden defect in its transmission. What is the probability that a randomly selected purchaser of two mini-vans will wind up with at least one mini-van with a defective transmission?
    A) 0.333
    B) 0.500
    C) 0.667
    D) 0.250
    E) 0.556

    Answer: E Type: Computation Difficulty: Medium

19. One out of three mini-vans sold by a nationwide auto dealer has a hidden defect in its transmission. If a small business purchases four mini-vans from this dealer, what is the probability that this purchaser will wind up with exactly two mini-vans with defective transmissions?
    A) 0.2963
    B) 0.1111
    C) 0.2222
    D) 0.7037
    E) 0.7778

    Answer: A Type: Computation Difficulty: Medium

20. An experienced person has an 80% probability of getting a particular job. An inexperienced person has a 50% chance of getting the same job. 60% of the applicants are inexperienced. If the job is offered to a person, what is the probability that the person was inexperienced?
    A) 0.4
    B) 0.6
    C) 0.3
    D) 0.4839
    E) 0.6667

    Answer: D Type: Computation Difficulty: Hard

21. A manager assigns three different jobs to five different operators at random. Each operator is best-suited for a distinct job. What is the probability that each job will be assigned to that operator who is best for that job?
    A) 3/5
    B) 1/60
    C) 3/50
    D) 5/60
    E) 1/15

    Answer: B Type: Computation Difficulty: Hard

Use the following to answer questions 22-23:

The probability that a customer will buy a product given that he or she has seen an advertisement for the product is 0.15. The probability that a consumer will see an ad for this particular product is 0.20.

22. What is the probability that a consumer will both see the ad and buy the product?
    A) 0.75
    B) 0.075
    C) 0.35
    D) 0.03
    E) 0.035

    Answer: D Type: Computation Difficulty: Medium

23. The probability that a consumer who did not see this ad will buy the product is 0.05. Find the probability that a given consumer will buy the product.
    A) 0.04
    B) 0.07
    C) 0.03
    D) 0.012
    E) none of the above

    Answer: B Type: Computation Difficulty: Medium

24. The probability that account A will have an error in it is 0.75. The probability that account B will have an error in it is 0.40. The probability that both accounts will be in error is 0.20. Are these two accounts independent of each other?
    A) yes
    B) no
    C) insufficient information to determine

    Answer: B Type: Computation Difficulty: Medium

25. The probability that a shot will hit the target is 0.02. Successive shots are independent of each other. What is the probability that at least one out of four shots will hit the target?
    A) 0.25
    B) 0.005
    C) 0.99999984
    D) 0.00000016
    E) 0.0776

    Answer: E Type: Computation Difficulty: Medium

26. A car gets involved in an accident 80% of the time if it is defective. If it is not defective, the probability reduces to 40%. 30% of all cars are defective. If a car is involved in an accident, what is the probability that it was defective?
    A) 0.32
    B) 0.24
    C) 0.4615
    D) 0.12
    E) 0.0343

    Answer: C Type: Computation Difficulty: Hard

27. Thirty percent of the managers in a certain company have MBA degrees as well as professional training. Eighty percent of all managers in the firm have professional training. If a manager is randomly chosen and found to have professional training, what is the probability that he or she also has an MBA?
    A) 0.24
    B) 0.5
    C) 0.375
    D) 0.26
    E) 0.625

    Answer: C Type: Computation Difficulty: Medium

28. A box has 20 screws, three of which are known to be defective. What is the probability that the first two screws taken out of the box are both defective?
    A) 0.0158
    B) 0.15
    C) 0.0237
    D) 0.0225
    E) none of the above

    Answer: A Type: Computation Difficulty: Medium

29. A box has 20 screws, three of which are known to be defective. What is the probability that exactly one of the first two screws taken out of the box are defective?
    A) 0.1342
    B) 0.2684
    C) 0.05
    D) 0.0158
    E) none of the above

    Answer: B Type: Computation Difficulty: Medium

Use the following to answer questions 30-31:

Two players are competing in a shooting gallery, each getting one shot at the target. The probability of the first shooter hitting the target is 0.57 and the probability of the second shooter hitting the target is 0.65.

30. What is the probability that both shooters hit their targets?
    A) 0.08
    B) 0.8769
    C) 0.3705
    D) 0.614
    E) 0.6615

    Answer: C Type: Computation Difficulty: Medium

31. What is the probability that at least one of the two players hits the target?
    A) 0.3705
    B) 0.8769
    C) 0.2795
    D) 0.8495
    E) 1.22

    Answer: D Type: Computation Difficulty: Medium

32. A company has two production lines for plastic bottles, A and B. Two percent of the bottles coming off of line A are defective, and 8% of those off of line B are defective. Line A produces three times as many bottles as Line B. If a bottle is selected at random and found to be defective, what is the probability that it came from line A?
    A) 0.04
    B) 0.4
    C) 0.1111
    D) 0.4286
    E) 0.625

    Answer: D Type: Computation Difficulty: Hard

33. A particular company has twenty salespeople. How many ways can a group of three salespeople be chosen from this company?
    A) 1140
    B) permutation of 20 chose 3
    C) combination of 20 chose 20
    D) 5700
    E) none of the above

    Answer: A Type: Computation Difficulty: Medium

Use the following to answer questions 34-35:

An urn contains two red balls and three white balls.

34. If a ball is chosen at random, what is the probability that it is white?
    A) 0
    B) 1
    C) 2/5
    D) 1/5
    E) 3/5

    Answer: E Type: Computation Difficulty: Easy

35. Suppose two balls are drawn randomly. What is the probability that both will be white?
    A) 1/10
    B) 3/20
    C) 6/20
    D) 9/20
    E) 9/25

    Answer: C Type: Computation Difficulty: Medium

36. The probability that a contractor will win a bid for contract A is 0.45; the probability that the contractor will win a bid for contract B is 0.25. The two bids are believed to be independent of each other. What is the probability that the contractor will win at least one of the two bids?
    A) 0.70
    B) 0.20
    C) 0.1125
    D) 0.5875
    E) 0.5556

    Answer: D Type: Computation Difficulty: Medium

37. The probability of stock A rising is 0.3; and of stock B rising is 0.4. What is the probability that neither of the stocks rise, assuming that these two stocks are independent?
    A) 0.42
    B) 0.12
    C) 0.88
    D) 0.44
    E) 0.70

    Answer: A Type: Computation Difficulty: Medium

38. The probability of stock A rising is 0.3; and of stock B is 0.4. If stocks A and B are not independent, and the probability of both stocks rising is 0.09, what is the probability that neither stock rises?
    A) 0.61
    B) 0.39
    C) 0.12
    D) 0.91
    E) 0.03

    Answer: B Type: Computation Difficulty: Medium

39. A bag has five pearls in it, out of which one is artificial. If three pearls are taken out at random, what is the probability that the artificial pearl is one of them?
    A) 1/5
    B) 2/5
    C) 3/5
    D) 4/5
    E) none of the above

    Answer: C Type: Computation Difficulty: Easy

40. What is the probability of getting at least one six in five rolls of a single fair die?
    A) 1/5
    B) 1/30
    C) 1/6
    D) 5/6
    E) 0.5981

    Answer: E Type: Computation Difficulty: Medium

41. If the probability of event A is 0.5 and the probability of event B is 0.25, and nothing else is known about A and B, then the probability that either A or B or both will occur, is?
    A) 0.75
    B) 0.125
    C) 0
    D) 0.25
    E) insufficient information to determine

    Answer: E Type: Concept Difficulty: Easy

42. The probability that a missile will hit the target in a given launching is 0.2. Launches are known to be independent of each other. The probability that at least one missile will hit the target in 3 independent launches is:
    A) 0.488
    B) 0.505
    C) 0.6
    D) 0.8
    E) 0.

    Answer: A Type: Computation Difficulty: Medium

43. The probability that both events A and B will occur is 0. 15. The probability that event A will occur is 0.3. Then the probability that A will occur, given that B has occurred is:
    A) 0
    B) 0.5
    C) insufficient information to determine
    D) 0.05
    E) 0.15

    Answer: C Type: Concept Difficulty: Medium

44. Suppose that two events A and B are mutually exclusive. We know that the probability of A is 0.4 and the probability of B is 0.2. The probability that either A or B (or both) will occur is:
    A) 0.08
    B) 0.52
    C) 0.60
    D) 0
    E) none of the above

    Answer: C Type: Computation Difficulty: Easy

45. Suppose that the probability of A is 0.7 and the probability of B is 0.4, and we know that the probability that both A and B will occur is 0.28. Then the two events are
    A) unrelated to each other.
    B) mutually exclusive.
    C) independent.
    D) dependent.
    E) unable to occur at the same time.

    Answer: C Type: Computation Difficulty: Medium

46. If the probability of A is 0.45 and the probability of the intersection of A and B is 0.15, then the probability that B will occur given that A has occurred is:
    A) 3.00
    B) 1.00
    C) 1/3
    D) 1/9
    E) 0.675

    Answer: C Type: Computation Difficulty: Medium

47. The probability that event A will occur is 0.6. Given that event A occurs, the probability that event B will occur is 0. The probability that both events A and B will occur is:
    A) 1
    B) 0
    C) insufficient information to determine
    D) 0.6
    E) 0.4

    Answer: B Type: Concept Difficulty: Easy

48. The probability of event A is 0.7 and the probability of event B is 0.7. Then the probability of the intersection of A and B is?
    A) 0.49
    B) 0
    C) 1
    D) 1.4
    E) insufficient information to determine

    Answer: E Type: Concept Difficulty: Easy

49. The probability of event A is 0.99, the probability of event B is 0.01, and the probability of event C is 0.01. The three events are independent of each other. The probability that at least one of the three events will occur is:
    A) 1.01
    B) 1
    C) 0.99
    D) 0.099
    E) 0.01

    Answer: C Type: Computation Difficulty: Medium

50. The probability that a rocket will hit a target is 0.8. Five different rockets of this type are fired. Assuming that the rockets are fired independently, the probability that all rockets will hit their target is:
    A) 0.3277
    B) 0.9996
    C) 0.0004
    D) 0.6723
    E) none of the above

    Answer: A Type: Computation Difficulty: Medium

51. If the P(A) = 0.3; P(B) = 0.5; and A and B are mutually exclusive, then the probability of A or B or both occurring is:
    A) P(A) + P(B)
    B) P(A) x P(B)
    C) P(A) + P(B) - P(A) x P(B)
    D) zero
    E) cannot be determined

    Answer: A Type: Concept Difficulty: Medium

52. If P(A) = 0.2; P(B) = 0.6; and A and B are independent events, then the P(A U B) is:
    A) P(A) + P(B)
    B) P(A) x P(B)
    C) P(A) + P(B) - P(A) x P(B)
    D) zero
    E) cannot be determined

    Answer: C Type: Concept Difficulty: Medium

53. If the probability of A is 0.5 and the probability of B is 0.2 and the probability of the union of A and B is 0.7, then:
    A) A and B are independent
    B) A and B are mutually exclusive
    C) A and B are dependent
    D) A and B do have an intersection
    E) impossible to determine

    Answer: B Type: Concept Difficulty: Medium

54. If the probability of A is 0.33 and the probability of B is 0.33, and the probability of either A and B both occurring is 0.66, then:
    A) A and B are dependent
    B) A and B are independent
    C) A and B are mutually exclusive
    D) if A occurs, B is certain to occur
    E) there is not enough information to make a conclusion

    Answer: C Type: Concept Difficulty: Medium

55. If the probability of A is 0.6 and the probability of A given B is 0.2, then the probability of the intersection of A and B is:
    A) 0.12
    B) 0.3333
    C) 0.80
    D) 0.68
    E) insufficient information to determine

    Answer: E Type: Concept Difficulty: Medium

56. I shoot at a target five times and each time my probability of hitting is 0.40. Assuming that each shot is independent, my probability of hitting the target at least once is:
    A) 0.01024
    B) 0.07776
    C) 0.92224
    D) a number very close to zero
    E) none of the above

    Answer: C Type: Computation Difficulty: Medium

57. The probability that I get job A is 0.45; the probability that I get job B is 0.60; and the probability that I get both the jobs is 0.30. The probability that I get at least one job offer is:
    A) 0.30
    B) 0
    C) 1
    D) 0.55
    E) 0.75

    Answer: E Type: Computation Difficulty: Medium

58. The probability that event A will occur is 0.90 and the probability that event B will occur is 0.10. The two events are known to be mutually exclusive. The probability that both A and B will occur is:
    A) 0
    B) 1
    C) 0.5
    D) 0.33
    E) insufficient information to determine

    Answer: A Type: Concept Difficulty: Easy

59. The probability that account A is in error is 0.05 and the probability that account B is in error is 0.05. Nothing else is known about the nature of the accounts or any relationship between them. The probability that at least one of the two accounts is in error is:
    A) 0.05
    B) 0.10
    C) 0.0975
    D) 0
    E) insufficient information to determine

    Answer: E Type: Concept Difficulty: Medium

60. The probability that event A will occur is 0.7 and the probability that event B will occur is 0.7, and the probability that both events will occur is 0.49. The two events are:
    A) independent
    B) mutually exclusive
    C) dependent
    D) disjoint
    E) insufficient information to determine

    Answer: A Type: Concept Difficulty: Medium

61. The probability of a successful merger with a larger firm is 0.40. Given that a merger is successful, there is a 0.25 probability that profits next year will be high. What is the probability that both the merger will succeed and that profits next year will be high?
    A) 0.10
    B) 1
    C) 0.15
    D) 0.625
    E) 1.6

    Answer: A Type: Computation Difficulty: Medium

Use the following to answer questions 62-66:

The following table shows the outcome of 500 interviews attempted during an opinion survey of randomly selected individuals in four counties:

	Interview Outcome		
County	Completed (C)	Not at Home (N)	Refused (R)
Applewood	100	20	5
Bakingwell	115	5	5
Crustboro	50	60	15
Doughton	35	50	40

62. What is the probability that a randomly selected interview report was actually completed?
    A) 0.20
    B) 0.25
    C) 0.60
    D) 0.75
    E) 0.80

    Answer: C Type: Computation Difficulty: Easy

63. What is the probability that a randomly selected interview report came from Applewood County?
    A) 0.20
    B) 0.25
    C) 0.60
    D) 0.75
    E) 0.80

    Answer: B Type: Computation Difficulty: Easy

64. What is the probability that a randomly selected interview report involved *both* a Doughton County respondent *and* a refusal to be interviewed?
    A) 0.38
    B) 0.30
    C) 0.25
    D) 0.08
    E) 0.02

    Answer: D Type: Computation Difficulty: Medium

65. What is the probability that a randomly selected interview report involved *either* a Bakingwell County respondent *or* a completed interview?
    A) 0.62
    B) 0.65
    C) 0.68
    D) 0.83
    E) 0.85

    Answer: A Type: Computation Difficulty: Hard

66. Suppose a randomly selected interview report is from Crustboro County. What is the probability the person targeted wasn't at home?
    A) 0.27
    B) 0.48
    C) 0.65
    D) 0.72
    E) 0.84

    Answer: B Type: Computation Difficulty: Medium

Use the following to answer questions 67-68:

A construction company employs three engineers—Alfred, Becky and Chris—whose responsibility it is to estimate costs for input into bids for prospective jobs. While each engineer is very good at his or her work, each also occasionally makes a serious error in cost estimation. Their past performance with respect to productivity and accuracy has been summarized in the following table:

Engineer	Cost Estimates Produced (%)	Seriously Inaccurate (%)
Alfred	40.0	5.0
Becky	35.0	4.0
Chris	25.0	3.0

67. Suppose a recently developed cost estimate has been shown to be seriously inaccurate. What is the probability that this estimate was prepared by Chris?
    A) 0.250
    B) 0.482
    C) 0.518
    D) 0.815
    E) 0.842

    Answer: B Type: Computation Difficulty: Medium

68. Suppose a recently developed cost estimate has been shown to be seriously inaccurate. What is the probability that this estimate was prepared by either Alfred or Becky?
    A) 0.022
    B) 0.090
    C) 0.518
    D) 0.750
    E) 0.815

    Answer: C Type: Computation Difficulty: Hard

69. Five of the 12 members of the board of directors of Giganticus, Inc., will be placed on a subcommittee that will decide if John Goodhair, Chairman and CEO, will remain in his position. How many subcommittees are possible if members are randomly chosen?
    A) 792
    B) 879
    C) 972
    D) 95040
    E) None of the above

    Answer: A Type: Computation Difficulty: Medium

Short Answer Questions

70. The probability that traffic will be banned around the town square if a certain legislation is passed is 0.85. The probability that traffic will be banned if the legislation in question does not pass is 0.20. If the probability that the legislation will pass is 0.40, what is the probability that traffic will be banned?

    Answer: (.85) x (.40) + (.20) x (.60) = 0.34 + 0.12 = 0.46 Type: Computation Difficulty: Medium

71. My probability of getting job A is 0.20; my probability of getting job B is 0.10; my probability of getting job C is 0.35, and my probability of getting job D is 0.05. All jobs are independent of each other. What is my probability of getting at least one of these jobs?

    Answer: 1 - P(not getting any of the 4 jobs) = 1 - [(.8) x (.9) x (.65) x (.95)] = 1 - 0.446 = 0.5554 Type: Computation Difficulty: Medium

72. Two or more events which cannot occur at the same time are called _____.

    Answer: mutually exclusive Type: Concept Difficulty: Easy

73. When two events are disjointed, the probability that they both occur is _____.

    Answer: zero Type: Concept Difficulty: Medium

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74. If the P(A) = 0.20 and P(B) = 0.30, and the two events are mutually exclusive, what is the P(A $\cap$ B)?

    Answer: zero Type: Concept Difficulty: Easy

75. If the P(A) = 0.20 and P(B) = 0.30, and A and B are known to be independent, what is the probability of the intersection of A and B?

    Answer: 0.20 x 0.30 = 0.06, if A and B are independent Type: Computation Difficulty: Medium

76. Ten people try out for a local basketball team. If only five people can be chosen for the team, and all players can play all positions, how many ways can this team be chosen?

    Answer: combination of 10 choose 5 = 252 Type: Computation Difficulty: Medium

77. Suppose 100 people enter a drawing for three grand prizes of $10,000, $5,000, and $1,000. How many ways can the winners for these three prizes be selected?

    Answer: permutation of 100 choose 3 = 100 x 99 x 98 = 970,200 Type: Computation Difficulty: Medium

78. If the probability of event A is 0.82, what is the probability of the complement of event A?

    Answer: 1 - 0.82 = 0.18 Type: Computation Difficulty: Easy

Use the following to answer questions 79-82:

On the assembly line, a bin of nuts has three times as many nuts as bolts. (Assume an unlimited supply.)

79. What is the probability that, without looking, a worker will pull out a nut on the first grab?

    Answer: 1/4 Type: Computation Difficulty: Medium

80. What is the probability that the second grab will produce a nut?

    Answer: 1/4 Type: Computation Difficulty: Medium

81. What is the probability that the second grab will produce a nut if the first grab produced a bolt?

    Answer: 1/4 Type: Computation Difficulty: Medium

82. What is the probability that two grabs will produce one nut and one bolt?

    Answer: 3/8 Type: Computation Difficulty: Medium

Use the following to answer questions 83-84:

On the assembly line, a bin of nuts has three times as many nuts as bolts. (Assume an unlimited supply.)

83. Suppose that later in the day, on the same assembly line, the bin has been emptied down to eight nuts and two bolts. What is the probability that, without looking, a worker will pull out a nut on the first grab?

    Answer: 8/10 Type: Computation Difficulty: Medium

84. Suppose that later in the day, on the same assembly line, the bin has been emptied down to eight nuts and two bolts. What is the probability that two grabs will produce a nut and a bolt?

    Answer: 16/45 Type: Computation Difficulty: Medium

85. A shipment of 144 widgets is to be rejected if one or more out of five selected at random are found to be defective. If a particular shipment has three defective items, what is the probability that the shipment will be rejected?

    Answer: 0.1013 Type: Computation Difficulty: Hard

Use the following to answer questions 86-87:

A certain weather forecaster is correct 80% of the time when he forecasts rain, and 90% of the time when he forecasts sun. Given the climate in his area, 30% of his forecasts are for rain and 70% are for sun.

86. Suppose it rained yesterday. What is the probability that yesterday's forecast actually called for rain?

    Answer: 0.7742 Type: Computation Difficulty: Hard

87. What is the overall probability of a correct forecast?

    Answer: 0.87 Type: Computation Difficulty: Hard

Use the following to answer questions 88-89:

A large urn contains n red balls, 2n green balls, and 3n blue balls. Three balls are drawn at random, one after another.

88. What is the probability of the sequence: RGB?

    Answer: 1/36 Type: Computation Difficulty: Medium

89. What is the probability that all three balls will be the same color?

    Answer: 1/6 Type: Computation Difficulty: Medium

Use the following to answer questions 90-91:

A small urn contains 4 red balls, 8 green balls, and 12 blue balls. Three balls are drawn at random, one after another, without replacement.

90. What is the probability of the sequence: RGB?

    Answer: 8/253 = 0.03162 Type: Computation Difficulty: Medium

91. What is the probability that all three balls will be the same color?

    Answer: 35/253 = 0.1383 Type: Computation Difficulty: Medium

92. You are playing dice and have a sudden urge to bet on a hard six, a role of three on each die. What is the probability that you will win your bet on the next roll of the pair of dice?

    Answer: 1/36 = .0278 Type: Computation Difficulty: Easy

93. You are playing dice and have an urge to bet on either six or an eight being rolled. What is the probability that you will win your bet on the next roll of the pair of dice?

    Answer: 5/36 + 5/36 = .2778 Type: Computation Difficulty: Medium

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Use the following to answer questions 94-95:

WAN Services has a 1,000 customer service representatives, 30% of whom have undergone extensive training in the S.M.I.L.E. method. Since the training began, WAN management has kept track of those representatives who have had at least one customer complaint and has observed that the complaint total attributed to non-trained representatives is more than twice that (455 vs. 195) of trained representatives.

94. If a randomly selected customer-service representative has undergone S.M.I.L.E. training, what is the probability that he or she will have generated at least one customer complaint?

    Answer: 195/300 = 0.65 Type: Computation Difficulty: Easy

95. Management has come to the conclusion that the S.M.I.L.E. method is a valuable tool for improving customer service. Do you agree, and why or why not?

    Answer: No, since those who have undergone the S.M.I.L.E. training have the same probability of generating a complaint (195 / 300 = 0.65) as those who have not undergone the training (455 / 700 = 0.65). Type: Computation Difficulty: Medium

96. Auditors have observed that a particular accounting error tends to be associated with attempts to misstate financial positions. Approximately 85% of firms attempting to misstate their earnings will commit this accounting error; for a firm *not* trying to misstate its earnings, the likelihood of making this error is approximately 5%. It has been estimated that the percentage of firms attempting to misstate earnings at any given time is only 5%. Suppose that in an audit of QRS Airlines, an auditor discovers this particular accounting error. What is the probability that this is *not* an honest mistake (i.e., QRS has actually been attempting to misstate its earnings)?

    Answer: (.85 * .05) / [(.85 * .05) + (.05 * .95)] = 0.4722 Type: Computation Difficulty: Hard