

Math 1313
Homework 22
Section 6.6

Use the following problem to answer questions 1 – 3.

Urn 1 contains 4 green and 5 yellow marbles. Urn 2 contains 7 green and 4 yellow marbles. An experiment consists of choosing one of two urns at random then drawing a marble from the chosen urn. Urn 1 is more likely to be chosen than Urn 2 with probability 0.63.

1. What is the probability that a green marble was chosen?
 - a. 0.5155
 - b. 0.3768
 - c. 0.4645
 - d. 0.8762
 - e. None of the above

2. What is the probability that a yellow marble was chosen, if it is known that Urn 2 was chosen?
 - a. 0.1389
 - b. 0.6811
 - c. 0.3636
 - d. 0.2500
 - e. None of the above

3. What is the probability that Urn 1 was chosen, if it is known that a yellow marble was drawn?
 - a. 0.6300
 - b. 0.7223
 - c. 0.2492
 - d. 0.2750
 - e. None of the above.

Use the following problem to answer questions 4 and 5.

A television manufacturer has three locations where it is finally assembled. Plants A, B, and C supply 50%, 30%, and 20% respectively of the televisions used by the manufacture. Quality control has determined that 1% produced by Plant A are defective, while plants B and C have 2% defective products.

4. What is the probability of finding a defective television?
 - a. 0.0150
 - b. 0.0300
 - c. 0.1458
 - d. 0.2243
 - e. None of the above

5. What is the probability that the television was manufactured by Plant B, given it was not defective?
 - a. 0.2700
 - b. 0.9850
 - c. 0.2985
 - d. 0.4975
 - e. None of the above

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6. At a carnival you win a prize if you get a heads, you must first choose a coin. There is a fair and a biased coin, while choosing each coin is equally likely, the biased coin has a 74% of landing tails. What is the probability of choosing the biased coin if you won a prize.

- a. 0.2600
- b. 0.5968
- c. 0.3421
- d. 0.5243
- e. None of the above

7. The choices for problem number 12 from the book are given below.

- a. 0.2908
- b. 0.0304
- c. 0.4137
- d. 0.0840
- e. None of the above.

8. The choices for problem number 16 part e from the book are given below.

- a. 0.2895
- b. 0.4406
- c. 0.2311
- d. 0.3500
- e. None of the above.

9. The choices for problem number 24 part a from the book are given below.

- a. 0.8298
- b. 0.9066
- c. 0.2311
- d. 0.7824
- e. None of the above

10. The choices for problem number 24 part e from the book are given below.

- a. 0.3201
- b. 0.0427
- c. 0.1623
- d. 0.1178
- e. None of the above.