

Practice Set 9 Discrete Probability Distributions

- I. Darin sells three different Walkman CD recorders; one for \$149, one for \$159, and a third for \$169. Of the 187 machines sold during a recent period, 43 were the least expensive, 90 were moderately priced, and 54 were the expensive model.

A. Calculate the expected price of Walkman sales.

B. Compare this answer to the page 12 weighted mean sales value of Walkman sales.

C. In theory, what is the difference between a weighted mean of variable x and the expected value of x ?

- II. When waiting on a customer, Darin's salespeople make a sale 60% of the time (see page 42). Use the binomial formula or your statistics software to calculate the probability of making exactly 3 sales to 5 customers.

- III. Using the appropriate table or your statistics software, complete the binomial distribution described by question II.

Special Note

- I. Variables that may follow a binomial probability distribution
 - A. Probability of an employee contributing to the company pension plan
 - B. Probability of collecting an overdue accounts receivable
 - C. Probability of receiving a positive response to a marketing campaign
 - D. Probability of a part being defective
- II. Variables that may follow a Poisson probability distribution
 - A. Number of defects on a 300 foot roll of aluminum
 - B. Errors on a typed page
 - C. Customers arriving at a drive up window within a 5 minute period
 - D. Number of rare disease cases per 1,000,000 people