Lesson 7.2 Practice: Expected Value and Standard Deviation

School Launch · Statistics · Unit 7: Random Variables · Worksheet A

Calculator / tables

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

1. X takes values 0, 3, 4, 5 with probabilities $\frac{1}{3}$, $\frac{4}{15}$, $\frac{1}{15}$, $\frac{1}{3}$. Find $E(X)$. EASY

2. X takes values 0, 2, 3, 5 with probabilities $\frac{1}{5}$, $\frac{3}{10}$, $\frac{3}{10}$, $\frac{1}{5}$. Find $E(X)$. EASY

3. X takes values 0, 3, 4, 5 with probabilities $\frac{1}{15}$, $\frac{1}{3}$, $\frac{2}{5}$, $\frac{1}{5}$. Find $E(X)$. EASY

4. X takes values 0, 1, 2, 5 with probabilities $\frac{3}{11}$, $\frac{5}{11}$, $\frac{2}{11}$, $\frac{1}{11}$. Find $E(X)$ and σ_X (nearest hundredth). MEDIUM

5. X takes values 1, 2, 4, 5 with probabilities $\frac{2}{11}$, $\frac{3}{11}$, $\frac{2}{11}$, $\frac{4}{11}$. Find $E(X)$ and σ_X (nearest hundredth). MEDIUM

6. X takes values 0, 1, 3, 4 with probabilities $\frac{1}{3}$, $\frac{1}{9}$, $\frac{1}{9}$, $\frac{4}{9}$. Find $E(X)$ and σ_X (nearest hundredth). MEDIUM

7. X takes values 0, 1, 2, 5 with probabilities $\frac{5}{13}$, $\frac{1}{13}$, $\frac{3}{13}$, $\frac{4}{13}$. Find $E(X)$ and σ_X (nearest hundredth). MEDIUM

8. X takes values 2, 3, 4, 5 with probabilities $\frac{5}{14}$, $\frac{1}{7}$, $\frac{3}{14}$, $\frac{2}{7}$. Find $E(X)$ and σ_X (nearest hundredth). HARD

9. X takes values 1, 2, 4, 5 with probabilities $\frac{1}{7}$, $\frac{3}{14}$, $\frac{3}{14}$, $\frac{3}{7}$. Find $E(X)$ and σ_X (nearest hundredth). HARD

10. X takes values 1, 3, 4, 5 with probabilities $\frac{1}{15}$, $\frac{1}{3}$, $\frac{1}{3}$, $\frac{4}{15}$. Find $E(X)$ and σ_X (nearest hundredth). HARD