

Online Homework System

Assignment Worksheet

11/30/03 - 11:00 PM

Name: _____**Class:** Finite Math**Class #:** _____**Section #:** _____**Instructor:** Delaram Kahrobaei**Assignment:** DK_7.4**Question 1: (1 point)**

Find the expected value for the probability distribution in the table below.

ValueProbability

-1 .1

 $-\frac{1}{2}$.4

0 .25

 $\frac{1}{2}$.2

1 .05

Question 2: (1 point)

An Olympic gymnast received the following scores from six judges: 9.8, 9.8, 9.4, 9.2, 9.2, 9.0.

- (a) Find the average score by adding the scores and dividing by 6.
- (b) Fill in the blanks:

The relative frequency for the scores are

ScoreRelative Frequency

9.8 _____

9.4 _____
 9.2 _____
 9.0 _____

- (c) Find the mean of the relative frequency distribution.

Question 3: (1 point)

The following table gives the possible returns of two different investments and their probabilities.

Investment A
 ReturnProbability
 \$1000 .2
 \$2000 .5
 \$3000 .3

Investment B
 ReturnProbability
 — \$ 3000 .1
 0 .3
 \$4000 .6

- (a) Calculate the means of the probability distribution for \bar{x}_A .
- (b) Calculate the means of the probability distribution for \bar{x}_B .
- (c) Which investment has the greater expected return?

- (a) A has greater expected return
 (b) B has greater expected return
 (c) Both investments have the same expected return

Question 4: (1 point)

Fill in the blanks:

In American roulette, a dollar may be bet on a pair of numbers. The expected earnings for this type of bet is $-\$ \frac{1}{19}$. How much money does the bettor receive if the ball lands on one of the two numbers?

\$ _____

Question 5: (1 point)

Fill in the blanks:

In a carnival game, the player selects two coins from a bag containing two silver dollars and six slugs. Using the probability distribution for the winnings, determine how much the player would have to pay so that he would break even, on the average, over many repetitions of the game.

The answers should be entered as fractions only.

WinningsProbability

\$2 _____

\$1 _____

\$0 _____

The player should pay _____ cents per play to break even.

Question 6: (1 point)

Fill in the blanks:

Using life insurance tables, a retired couple determines that the probability of living 5 more years is .9 for the man and .95 for the woman. They decide to take out a life insurance policy that will pay \$10,000 if either one dies during the next 5 years and \$15,000 if both die during that time. How much should they be willing to pay for this policy? (Assume that their life spans are independent events.)

\$ _____

Question 7: (1 point)

A student's exam scores are 95, 88, and 79. What score must the student earn on the fourth exam to have an average (arithmetic mean) score of 90?

- (a) 96
- (b) 97
- (c) 98
- (d) 99
- (e) 100

Question 8: (1 point)

A store sold an average (arithmetic mean) of x candles per day for k days, and then sold y candles on the next day. What is the average number of candles sold daily for the $(k + 1)$ -day period?

(a) $x + \frac{y}{k}$

(b) $\frac{kx+y}{k+1}$

(c) $\frac{k(x+y)}{k+1}$

(d) $\frac{x+ky}{k+1}$

(e) $x + \frac{y}{k+1}$

Question 9: (1 point)

If three distinct positive integers have an average (arithmetic mean) of 70, and if the smallest of the three integers is 50, then the largest of the three integers can be at most

- (a) 70
- (b) 99
- (c) 100
- (d) 109
- (e) 159

Question 10: (1 point)

A small business had an average (arithmetic mean) weekly revenue of \$14,000 over the past three weeks. The revenue for the first week was twice the revenue of the third week, and the revenue for the second week was half the revenue of the third week. What was the revenue for the first week?

- (a) \$6000
- (b) \$12,000
- (c) \$18,000
- (d) \$20,000
- (e) \$24,000

Question 11: (1 point)

Three members of a study group each earned a score of 91 on an exam, and the other five members of the group each earned a score of 87. The average (arithmetic mean) score earned by the members of this study group is

- (a) 88.0
- (b) 88.5
- (c) 89.0
- (d) 89.5
- (e) 90.0

Question 12: (1 point)

Half of the magazines at a newsstand sell for an average (arithmetic mean) of \$2.00 and the other half sell for an average of \$2.50. If the total retail value of the magazines is \$135.00, how many magazines are there at the newsstand?

- (a) 56
- (b) 57
- (c) 58
- (d) 59
- (e) 60

Question 13: (1 point)

Bob wishes to insure a priceless family heirloom against theft. The annual premium for policy A is \$150, and it will pay \$75,000 if the heirloom is stolen. Policy B will pay \$100,000, but the annual premium for policy B is \$250. Bob estimates the probability that the heirloom will be stolen in any given year and remains undecided between the two policies. What is this estimated probability?

- (a) .001
- (b) .002
- (c) .003
- (d) .004
- (e) .005