

7) On a multiple-choice test, a student is given five possible answers for each question. The student receives 1 point for a correct answer and loses $\frac{1}{4}$ point for an incorrect answer. If the student has no idea of the correct answer for a particular question and merely guesses, what is the student's expected gain or loss on the question? 7) _____

- A) 0 B) 0.25 C) 0.133 D) -0.33

8) Suppose also that on one of the questions you can eliminate two of the five answers as being wrong. If you guess at one of the remaining three answers, what is your expected gain or loss on the question? 8) _____

- A) 0 B) 0.167 C) 0.133 D) 0.63

9) A dairy farmer estimates for the next year the farm's cows will produce about 25,000 gallons of milk. Because of variation in the market price of milk and cost of feeding the cows, the profit per gallon may vary with the probabilities given in the table below. Estimate the profit on the 25,000 gallons. 9) _____

Gain per gallon	\$1.10	\$0.90	\$0.70	\$0.40	\$0.00	$-\$0.10$
Probability	0.30	0.38	0.20	0.06	0.04	0.02

- A) \$21,850 B) \$20,508 C) \$20,580 D) \$20,850

10) At many airports, a person can pay only \$1.00 for a \$100,000 life insurance policy covering the duration of the flight. In other words, the insurance company pays \$100,000 if the insured person dies from a possible flight crash; otherwise the company gains \$1.00 (before expenses). Suppose that past records indicate 0.45 deaths per million passengers. 10) _____

How much can the company expect to gain on one policy?

- A) \$0.895 B) \$0.955 C) \$0.95 D) \$0.855

On 100,000 policies?

- A) \$89,500 B) \$95,500 C) \$95,000 D) \$85,500

11) A construction company wants to submit a bid for remodeling a school. The estimated bid cost \$4000 for construction company. If the bid were accepted, the company would have revenue of \$26,000. Would you advise the company to spend the \$4000 if the bid has only 20% probability of being accepted? Explain your reasoning. 11) _____

- A) \$2,000 B) \$1,500 C) \$1,000 D) \$1,200