

8A.10 Learning Opportunity



Name: _____

Expected Value

Suppose a charity raffles off 1000 \$1 tickets for a \$600 television.

1) What is the expected value for the purchase of one ticket?

2) Is \$1 a fair price to pay for the ticket? Explain.



3) A contractor bids on a construction project. There is a 0.7 probability of making \$200,000 profit and a 0.3 probability of losing \$250,000. What is the expected value?

4) The table shows the results of a survey conducted to find out how many times a person changes jobs after age 25. Find the expected number of job changes for the average person.

Number of job changes	Experimental probability
0	0.01
1	0.02
2	0.04
3	0.08
4	0.11
5	0.15
6	0.25
7	0.2
8	0.09
9	0.05

5) An insurance company insures a \$14,000 car. The company determines that the probability of an accident causing a total loss is 0.05. A total loss means the car is worth \$0 after the accident. A loss of half the cost of the car has a probability of 0.1. A loss of a quarter of the cost of the car has a probability of 0.2. What minimum yearly premium payment should the insurance company charge to make a profit on insuring this automobile?



"Your policy does cover wind damage, but not from huffing and puffing."

6) Use the dart board shown. Four points are scored for the inner circle, 3 points for the next region, 2 points for the next region, and one point for the outer region. What is the expected value for each dart that lands randomly somewhere on the dartboard?

