Name _____   Date _____

Calculating the Payoff of a Game of Chance - Guided Lesson Explanation

Explanation#1

Andrew earns $800 with the probability of .50, but he loses $300 whether the car sells or not.

E = ($800) × (.50) − ($300)

  = $100

So, the expected payoff is $100.

Explanation#2

Since there are 25C5 = 53,130 combinations of five numbers from a total of 25 numbers. So the expected payoff is:

P(win) = 1/53130 or 0.0000188

Expected payoff = (1/53130)*5 − 2 = −$1.9999

Explanation#3

We use the expected payoff formula, that is

Expected Value = $x_1p(x_1) + x_2p(x_2)$

E = ($15,000)(.20) + (5,000)(.80)

  = 3000 + 4000

  = 7,000

So, the expected attendance is 7,000.