



Simulations: Random Variables

An investor estimates that an investment in a local start-up company has a 30% chance of losing AED 5,000, a 20% chance of no monetary gain, and a 50% chance of making AED 30,000.

The following random number generator with integers 0-9 is used to simulate this situation.

Lose money: 0, 1, 2

No change: 3, 4

Make money: 5, 6, 7, 8, 9

The investor uses the random number generator to generate 80 numbers and recorded the results in the table.

Outcome	Frequency
Lose money	28
No change	14
Make money	38

What is the average value of the investment?

A hockey team has a 60% chance of winning a game, 30% chance of an overtime loss, and 10% chance of losing. The team is awarded 2 points for a win, 1 point for an overtime loss, and 0 points for a loss.

What is the expected value $E(X)$ for points earned in the next game they play?

Enter your answer in the space provided.

$E(X) =$