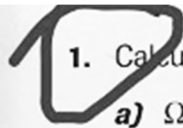


Extra Practice Quiz 3



1. Calculate the mathematical expectation in each of the following cases.

a) $\Omega = \{1, 2, 3, 4\}$; $P(1) = 0.2$, $P(2) = 0.15$, $P(3) = 0.4$ and $P(4) = 0.25$

b) $\Omega = \{-5, 5, 10\}$; $P(-5) = 3/4$, $P(5) = 1/5$ and $P(10) = 0.05$

c) $\Omega = \{-20, 0, 10\}$; $P(-20) = 0.05$, $P(0) = 0.5$ and $P(10) = 0.45$

d) $\Omega = \{2, 4, 6, 8\}$; $P(2) = 0.3$, $P(4) = 0.1$ and $P(6) = 0.4$



3. A wheel of fortune is divided into 40 equal slots marked with the following prize values: 8 slots worth \$1; 6 slots worth \$2; 4 slots worth \$3 and 2 slots worth \$4. All bets are returned along with the winnings, and players bet \$2 per round.

a) What is the expected value in this game?

b) Is this game fair? Justify your answer.

1 a) 2.7

b) -2.25

c) 3.5

d) 3.4

3. a) 0

b) Yes $EV=0$