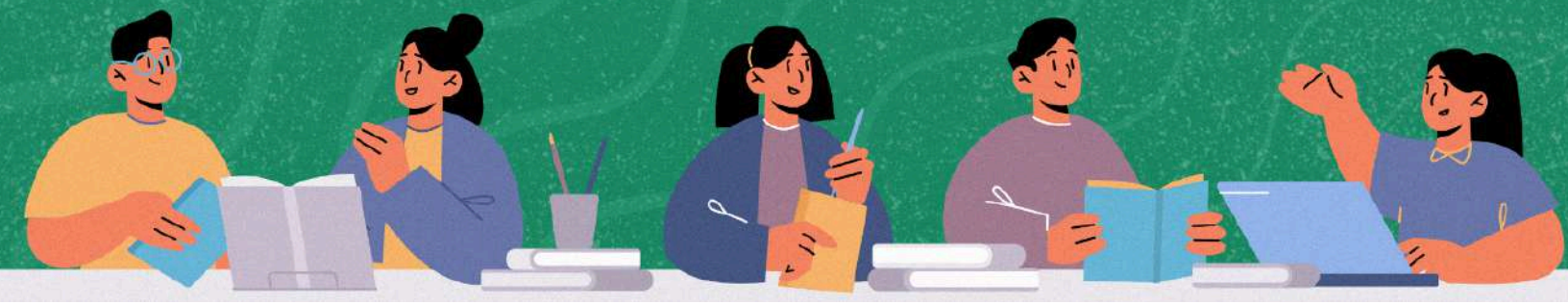


# WORKSHEET

## Properties of Expected Value

*Unsolved with Answer key*



# WORKSHEET

## Properties of Expected Value

**Question 1:** Given  $E(X) = 2$  and  $E(Y) = 7$ , find  $E(3X + 5Y)$ .

**Question 2:** If  $X = 8$ , find  $E(2X + 9)$ .

**Question 3:** Let  $E(X) = 10$  and  $E(Y) = 4$ , and assume  $X$  and  $Y$  are independent. Calculate  $E(XY)$ .

**Question 4:** If  $f(X) = 4X + 1$ , and  $E(X) = 5$ , find  $E(f(X))$ .

**Question 5:** Given  $E(X) = 3$  and  $E(Y) = 5$ , verify if  $E(X + Y) = E(X) + E(Y)$ .

**Question 6:** If  $E(X) = 9$ , find  $E(2X)$ .

**Question 7:** If  $E(X) = 3$  and  $E(Y) = 6$ , find  $E(5X - Y)$ .

**Question 8:** Find  $E(3X + Y)$  when  $E(X) = 2$  and  $E(Y) = 4$ .

# Answer Key

## Properties of Expected Value

1. 41
2. 25
3. 40
4. 21
5. 8
6. 18
7. 9
8. 10