Question 13 **(9 marks)**

Ravi runs a dice game in which a player throws two standard six-sided dice and the sum of the uppermost faces is calculated. If the sum is less than five, the player wins $20. If the sum is greater than eight, the player wins $10. Otherwise the player receives no money.

(a) Complete the table below. (2 marks)

Amount won			
Probability			

(b) What is the expected amount of money won by a player each time they play? (2 marks)

(c) Liu Yang decides to play the game. If Ravi charges her $5 to roll two dice, who is likely to be better off in the long-term? Explain. (3 marks)

(d) If Ravi wants to make a long-term profit per game of 20% of what he charges, what should he charge a player to roll the two dice? (2 marks)