Matrix games worksheet – answers

Answers

1. (a) For Player 1, B dominates A. Removing A, then for Player 2 we see that C dominates D. The outcome is $(1, -1)$.

   (b) For Player 1, A dominates B. Removing B, then for Player 2 we see that C dominates D. The outcome is $(5, -5)$.

   (c) For Player 1, A dominates C. Removing C, then for Player 2 we see that D dominates F. Removing F, then for Player 1 we see that A dominates B. Removing B, then for Player 2 we see that D dominates E. The outcome is $(1, 2)$.

2. (a) i. $\mathbf{p} = \begin{bmatrix} \frac{7}{12} & \frac{5}{12} \end{bmatrix}$, $\mathbf{q} = \begin{bmatrix} \frac{4}{12} \\ \frac{8}{12} \end{bmatrix}$

   ii. For Player 1, 5. For Player 2, $\frac{61}{12}$.

   (b) i. $\mathbf{p} = \begin{bmatrix} \frac{2}{3} & \frac{1}{3} \end{bmatrix}$, $\mathbf{q} = \begin{bmatrix} \frac{7}{10} \\ \frac{3}{10} \end{bmatrix}$

   ii. For Player 1, 6.2. For Player 2, $\frac{11}{3}$.

   (c) i. $\mathbf{p} = \begin{bmatrix} \frac{5}{12} & \frac{7}{12} \end{bmatrix}$, $\mathbf{q} = \begin{bmatrix} \frac{1}{4} \\ \frac{3}{4} \end{bmatrix}$

   ii. For Player 1, $\frac{21}{4}$. For Player 2, $\frac{25}{4}$.