Problem 1. Pure Nash equilibria

Two tobacco companies must decide whether to buy ads for the next Formula 1 race.

- Displaying ads gives you a marketing advantage over the other producer.

- Total sales are marginally affected by advertising (the number of people smoking is the same, they only move from one brand to another).

- The total value of sales is 4. Advertising costs 0.5 (see matrix above).

$$
\begin{array}{cc}
 & \begin{array}{cc} \text{No Ad} & \text{Ad} \end{array} \\
\begin{array}{c} \text{No Ad} \\ \text{Ad} \end{array} &
\left[\begin{array}{cc}
(2, 2) & (1, 2.5) \\
(2.5, 1) & (1.5, 1.5)
\end{array} \right]
\end{array}
$$

a) What is the Nash equilibrium of this game?

b) Formula 1 organizers now forbid tobacco advertising in their races. Are tobacco companies going to complain?

Additional problems: Solve Exercises 1 and 2 in the slides 01-Static games.pdf.