1. **The 3 criteria for identifying Prisoners Dilemmas.**
   Players can either cooperate or defect
   The Nash equilibrium is for both to defect
   This equilibrium is not Pareto efficient
2. **Problems arising from relying on weak dominance to determine equilibria.**
   Weakly dominant: strategy that, regardless of the other player's move, gives a payoff at least as great as another strategy, with at least one payoff being greater
3. **Concept of the Nash equilibrium of a game. Obviously you must be 100% clear on this.**
   The outcome wherein neither party has any incentive to change their move.
4. **Mixed and pure strategies solutions.**
   Pure: strategies played with either probability 1 or probability 0; i.e. fixed
   Mixed: strategies that are played along some probability distribution
5. **Public goods issues as Prisoner's Dilemmas.**
   It may be in the interests of the public to pursue a particular strategy (cooperate), giving the Pareto efficient outcome that benefits society as a whole, but it may still not be individually rational to. Hence individuals have incentive to defect, and society is worse off.
6. **Zero sum games and cake-eating problems.**
   Where what one player loses, the other one gains
7. **How does minimax work as a solution technique? Construct an example.**
   Minimax method used in constant sum games. The player who gains will want to maximise the value in the minimax table, and the player who loses will want to minimise it. Hence the player who gains will look at which strategies the player who loses will prefer (the minimising strategies), and then pick the maximum of that. The player who loses will see that maximising strategies which the player who gains will want, and then pick the minimum of that. This gives us the Nash equilibrium.
8. **Applications of the Prisoner's Dilemma in ethics.**
   Society as a whole will benefit from cooperating, but individual rationality is to defect. Most of society will hence defect, with perhaps a few still cooperating for the sake of ethics. However, this depends on the ethical nature of the society, and the individuals' values. If most individuals value ethical behaviour, most of the society may end up cooperating.
9. **Assurance games and the arms race.**
   There are two Nash equilibria, with one being Pareto efficient. However, each party will rely on the other party's cooperation; otherwise, they will end up with a bad payoff. Thus it is riskier to pursue the Pareto efficient outcome. In pursuing it, both players must be assured that the other player will also pursue it, so as to reach the best payoffs for both of them (focal point).
   Build/refrain from building. Can be assured both will refrain if committed by law to refrain
10. **Chicken games and airline economics.**
    Two Nash equilibria. Each player will prefer one of the equilibria, and prefer another outcome to the other equilibrium.
    Airline economics: which airline will win and remain in the industry; only one airline remains in the Nash equilibria. Which one will "chicken-out" of the market?
11. **Battle of the sexes games.**
    When both players share the same interests, but disagree on how to achieve those interests. Other factors may come into play: history, who has more bargaining power, focal point