Your personal exam code:

Instructions

- The exam consists of 18 statements, of which some are true (correct) and some are false (wrong). We don't specify how many are true or false.
- The 18 statements are divided into groups, where each group has some background information that is common to all the statements in the group.
- Your exam score is calculated as follows. Correct answers (i.e, true statements marked as true, and false statements marked as false) are awarded 1 point. Wrong answers (i.e., true statements marked as false, and false statements marked as true) give 1 point deduction. Statements that you do not mark never give any points, positive or negative.
- The maximum score is +18 and the minimum is −18. You must be awarded at least +6 points to pass the exam. Your exam score contributes directly to your total course score that is used to calculate your grade on the course (i.e., the exam contributes at most 18 points to your course score).
- You may only use a pen or pencil and an eraser. Specifically, no electronic equipment, no books, and no notes are allowed.
- Feel free to make notes or calculations on the form or on the provided extra paper.

The form will be read by a machine. Please mark clearly with a pen or pencil.
Check: ☒
Uncheck to correct: ■

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1

Consider a two-player simultaneous action game, where Player 1 has actions A, B, C and D and Player 2 has actions e, f, g and h. The payoffs are given by

	e	f	g	h
A	(9, 8)	(2, 6)	(9, 9)	(3, 8)
B	(10, 6)	(4, 8)	(7, 3)	(3, 9)
C	(7, 5)	(10, 3)	(8, 4)	(6, 6)
D	(7, 8)	(4, 3)	(8, 10)	(4, 4)

1.1 The game has exactly 16 strategy profiles.

☐ True ☐ False

1.2 The game has a mixed-strategy Nash equilibrium.

☐ True ☐ False

1.3 The pure strategy f for player 2 is strictly dominated.

☐ True ☐ False

1.4 There is a dominant strategy for player 1.

☐ True ☐ False

1.5 The pure strategy D for player 1 is strictly dominated.

☐ True ☐ False

1.6 The pure strategy B for player 1 is strictly dominated.

☐ True ☐ False

1.7 The game has exactly three pure-strategy Nash equilibria.

☐ True ☐ False

1.8 All Nash equilibria of this game are Pareto optimal.

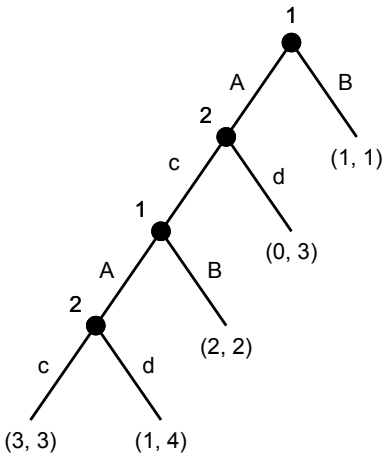
☐ True ☐ False

1.9 There are no Pareto optimal Nash equilibria for this game.

☐ True ☐ False

2

Consider the two-player game depicted below.



2.1 The game has exactly four pure-strategy Nash equilibria.

☐ True ☐ False

2.2 The game has exactly two subgame perfect Nash equilibria.

☐ True ☐ False

2.3 This is a game of imperfect information.

☐ True ☐ False

3

Consider the infinitely repeated game with average payoffs where the simultaneous-action stage game (one-round game) has payoffs as follows:

	C	D
A	(0, 0)	(5, 3)
B	(4, 4)	(6, 2)

3.1 The minimax value is 0 for both players.

☐ True ☐ False

3.2 The payoff profile (3, 1) is feasible.

☐ True ☐ False

3.3 The payoff profile (3, 1) is enforceable.

☐ True ☐ False

3.4 The infinitely repeated game has a Nash equilibrium with payoff profile (5, 3).

☐ True ☐ False

4

Consider a game with the following payoff matrix:

	A	B
A	(4, 4)	(0, 1)
B	(1, 0)	(0, 0)

4.1 The pure-strategy profile (B, B) is a weak Nash equilibrium.

☐ True ☐ False

4.2 The pure strategy B is a weak evolutionarily stable strategy.

☐ True ☐ False