QUIZIZZ Worksheets

midterm multiple choice practiice
Total questions: 20
Worksheet time: 22mins
Instructor name: Dante Yasui

Name
Class
Date

1. _____ uncertainty is uncertainty over the state of nature

   a) rational
   b) external
   c) bayesian
   d) internal

2. an information set includes

   a) all decision nodes in the same layer of a tree
   b) all decision nodes of one player which they cannot distinguish between
   c) all decision nodes of the game
   d) all decision nodes for both players of a simultaneous subgame

3. _____ uncertainty is uncertainty over players' own actions

   a) rational
   b) bayesian
   c) external
   d) internal

4. rationality means that

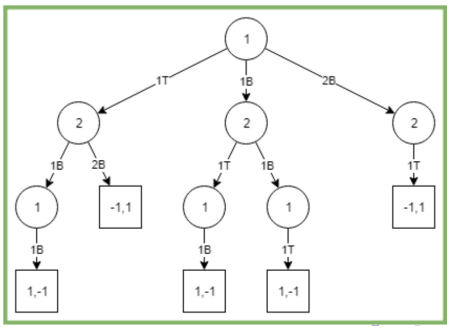
   a) players' preferences are continuous and independent
   b) players' preferences are complete and transitive
   c) players never make mistakes
   d) players have perfect information

5. a best response is

   a) the best possible choice no matter what anyone else does
   b) to copy the other player
   c) the best strategy holding other players' strategies fixed
   d) to do the opposite of the other player

6. identifying best responses in strategic form is useful because

   a) it will always find all Nash equilibria of any game
   b) it removes non-credible threats
   c) the intersections show you pure strategy Nash equilibria
   d) its not useful, players never actually best respond

7. 

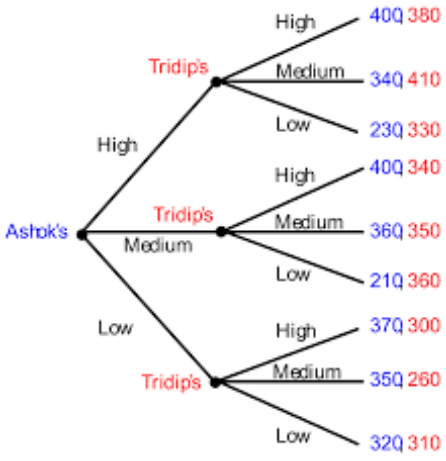
how many non-trivial subgames?

a) 3

b) 7

c) 12

d) 4

8. 

find the subgame perfect nash equilibrium

a) {Ashok: (High),
Tridip's: (Medium)}

b) {Ashok: (High),
Tridip's: (Medium, Low, Low)}

c) {Ashok: (Low),
Tridip's: (Medium, Low, Low)}

d) {Ashok: (High),
(Tridip's: High, High, High)}

9. define common knowledge of rationality

a) every player acts rationally

b) i know that you know that i know that you know ...
that i am rational and you are rational

c) every player has perfect information

d) every player knows every other player is rational

10. extensive form games look like _____;
strategic form games look like _____.

a) webs,
trees

b) tables,
trees

c) trees,
lists

d) trees,
tables

11. cardinal payoffs

a) indicate specific amounts; double the number means double the happiness

b) are payoffs for birds

c) indicate rankings only; double the number only means happier

d) are necessary for solving all games

12. ordinal payoffs

a) only tell you the probabilities of outcomes

b) are only useful as components of mixed strategies

c) only tell you how preferences are ranked

d) tell you how much utility you have in absolute terms; double means you are twice as happy

13. a Pareto improvement means

a) that everyone is much happier

b) that at least one person is happier, and nobody is worse off

c) that unilaterally deviating makes you no better off

d) that only mathematicians are happier

14. which of the following is an assumption that is made by Subgame Perfection, but not needed for other kinds of Nash equilibria?

a) More is Better

b) Common Knowledge of Rationality

c) Perfect Information

d) Sequential Rationality

15. *Table 1. Payoff matrices for McDonald's and Burger King*

		Burger King		
		Discounted price	status quo	Aggressive commercial
McDonald's	Discounted price	60, 35	65, 20	55, 45
	status quo	40, 40	60, 40	45, 55
	Aggressive commercial	55, 50	60, 30	60, 40

find the pure strategy nash equilibrium

a) there is none

b) McD: discount, BK: agressive

c) McD: agressive, BK: status quo

d) McD: aggressive, BK: discount

16. *Table 1. Payoff matrices for McDonald's and Burger King*

		Burger King		
		Discounted price	status quo	Aggressive commercial
McDonald's	Discounted price	60, 35	65, 20	55, 45
	status quo	40, 40	60, 40	45, 55
	Aggressive commercial	55, 50	60, 30	60, 40

suppose that BK is playing a mixed strategy of Discount with probability *b*, and aggressive with (1-*b*). What is McDonald's expected utility of Discounting their price?

a) $35b + 45(1-b)$

b) $60b + 55(1-b)$

c) $55b + 60(1-b)$

d) $40b + 45(1-b)$

17.

Table 1. Payoff matrices for McDonald's and Burger King

		Burger King		
		Discounted price	status quo	Aggressive commercial
McDonald's	Discounted price	60, 35	65, 20	55, 45
	status quo	40, 40	60, 40	45, 55
	Aggressive commercial	55, 50	60, 30	60, 40

suppose BK is playing Discount with probability *b*, and aggressive with probability (1-*b*).
What is McDonald's expected payoff of playing Aggressive?

a) $55b + 60(1-b)$

b) $40b + 45(1-b)$

c) $60b + 55(1-b)$

d) $50b + 40(1-b)$

18.

Table 1. Payoff matrices for McDonald's and Burger King

		Burger King		
		Discounted price	status quo	Aggressive commercial
McDonald's	Discounted price	60, 35	65, 20	55, 45
	status quo	40, 40	60, 40	45, 55
	Aggressive commercial	55, 50	60, 30	60, 40

Burger King plays Discount with probability *b* and Aggressive (1-*b*),
what value of *b* would make McD indifferent between Discounting and being Aggressive?

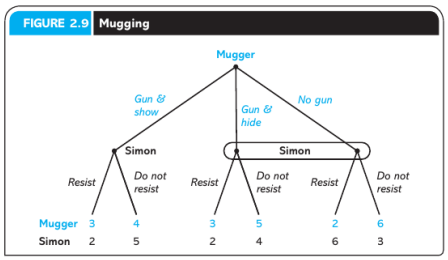
a) 1

b) 0

c) 1/2

d) 1/3

19.



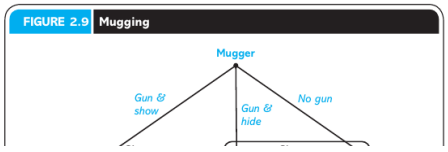
What does a complete strategy profile look like in this game?
(figure from Harrington, pg. 30)

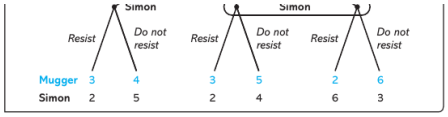
a) { (Mugger's choice at node 1, Mugger's choice at node 2),
(Simon's choice at node 3, Simon's choice at node 4) }

b) { (Mugger's choice at node 1),
(Simon's choice at node 2) }

c) { (Mugger's choice at node 1),
(Simon's choice at node 2, Simon's choice at node 3, Simon's choice at node 4) }

d) { (Mugger's choice at node 1),
(Simon's choice at node 2, Simon's choice at info set 3) }



20. 

Find the SPNE (figure from Harrington, pg. 30)

a) { (No gun), (Do not resist, Resist) }

b) { (Gun & hide), (Resist, Resist) }

c) { (Gun & hide), (Do not resist, Do not resist) }

d) { (Gun & show), (Do not resist, Do not resist) }

Answer Keys

1. b) external
2. b) all decision nodes of one player which they cannot distinguish between
3. d) internal
4. b) players' preferences are complete and transitive
5. c) the best strategy holding other players' strategies fixed
6. c) the intersections show you pure strategy Nash equilibria
7. a) 3
8. b) {Ashok: (High), Tridip's: (Medium, Low, Low)}
9. b) i know that you know that i know that you know ... that i am rational and you are rational
10. d) trees, tables
11. a) indicate specific amounts; double the number means double the happiness
12. c) only tell you how preferences are ranked
13. b) that at least one person is happier, and nobody is worse off
14. d) Sequential Rationality
15. a) there is none
16. b) 60*b* + 55(1-*b*)
17. a) 55*b* + 60(1-*b*)
18. c) 1/2
19. d) { (Mugger's choice at node 1), (Simon's choice at node 2, Simon's choice at info set 3) }
20. c) { (Gun & hide), (Do not resist, Do not resist) }