

Name:

### Quiz 7

Suppose three people, with preferences listed below right, are using Selfridge/Conway to divide up a berry tart that has the following configuration:

M	M	M
L	M	M
L	H	M
L	H	H

	H	L	M
A	X	X	X
B	X	X	2X
C	2X	X	0

1) What's the total value of the tart to each of the players? (you can use integers for this)

A: \_\_\_\_\_ B: \_\_\_\_\_ C: \_\_\_\_\_

2) Suppose A divides the tart into three pieces by the columns (so we can call the pieces **left**, **middle** and **right**). Which piece would B trim?

If B makes the trimmings at the bottom of that piece, what are the trimmings?

3) Continuing in round 1, who gets to pick first? \_\_\_\_\_ What piece would they pick? \_\_\_\_\_  
who picks next? \_\_\_\_\_ What piece would they pick? \_\_\_\_\_  
and who picks last? \_\_\_\_\_ What piece would they get? \_\_\_\_\_

4) If we continue onto round 2 for this example, who would divide the trimmings: A, B, or C?

5) At the end of round 1, before the trimmings are divided, which player(s) got at least a fair share in this example?

6) In general (not just for this example) which player(s) are guaranteed at least a fair share at the end of round 1 using Selfridge Conway?

Name: Solutions

Quiz 7

Suppose three people, with preferences listed below right, are using Selfridge/Conway to divide up a berry tart that has the following configuration:

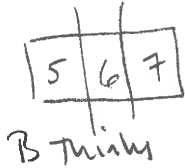
M	M	M
L	M	M
L	H	M
L	H	H

	H	L	M
A	X	X	X
B	X	X	2X
C	2X	X	0

1) What's the total value of the tart to each of the players? (you can use integers for this)

A: 12    B: 18    C: 9

2) Suppose A divides the tart into three pieces by the columns (so we can call the pieces **left**, **middle** and **right**). Which piece would B trim?



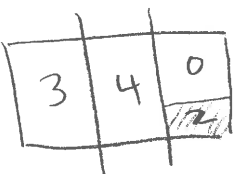
B trims the right piece

If B makes the trimmings at the bottom of that piece, what are the trimmings?

Just the one piece of H.

3) Continuing in round 1, who gets to pick first? C    What piece would they pick? middle

C trims



who picks next? B    What piece would they pick? trimmed, right

and who picks last? A    What piece would they get? left

4) If we continue onto round 2 for this example, who would divide the trimmings: A, B, or C? C

5) At the end of round 1, before the trimmings are divided, which player(s) got at least a fair share in this example? A, C, B

6) In general (not just for this example) which player(s) are guaranteed at least a fair share at the end of round 1 using Selfridge Conway? A