Quiz 17

1. Elena and Kaz are going to share a frozen hoagie. There are four components in the frozen hoagie - the ice cream flavors are mint chip and vanilla, the cookie flavors are fudge brownie and snickerdoodle. Elena (E) and Kaz (K) have the following values for the components:

	Mint	Van	Fudge	Snick
E	.3	.1	.1	.5
K	.2	.2	.5	.1
E to K val ratios				

   (a) Compute the E to K valuation ratios and fill them out in the table above.   (4 pts)

   (b) Circle which of the cuts below is a threshold division. Note that S_E goes to E and S_K goes to K, and same for T_E, T_K. In the space below right, you should draw and <u>label</u> the graph we discussed in class to justify your answer for partial credit.   (3 pts)

	S_E	S_K
M	1	0
V	1	0
F	0	1
S	0	1

	T_E	T_K
M	.7	.3
V	0	1
F	0	1
S	1	0

2. Choose and prove ONE of the following claims: (3 pts)

   (a) A pareto-optimal, equitable division is fair.

   (b) Suppose there are $N = 4$ players dividing a cake. If a division is unfair to one player, then that player has envy.