Homework 12 conducted in class on February 24, 2014
AGEC 1113

Name _____

(1.a) Fill in the missing cells below.
(1.b) If we don't produce any wheat our profits will be $_____ per acre.
(1.c) If we produce wheat but don't apply any nitrogen our profits will be $_____ per acre.

(1.d) Should we produce wheat? (circle one)   *YES   NO*

(1.e) [Answer only if answer to 1.d is "yes"] The profit-maximizing level of nitrogen use is _____ lbs
N per acre, producing _____ bushels of wheat per acre and providing profits of $_____
per acre.

Price of wheat	2	$ / bushel
Price of nitrogen	2	$ / lb
Fixed Costs	50	$ / acre
Other Variable Costs	60	$ / acre
Externality	IGNORE	$ / lb N

Produce wheat?	Nitrogen (lbs / acre)	Wheat yield (bushels / acre)	Cost of nitrogen application ($ / acre)	Total fixed costs ($ / acre)	Total variable costs ($ / acre)	Total private costs ($ / acre)	Revenues ($ / acre)	Private profits ($ / acre)
NO	0.00	0.00	-----------		-----------			
Yes	0.00	23.00	-----------					
Yes	10.00	25.00						
Yes	20.00	30.50						
Yes	30.00	40.00						
Yes	40.00	45.00						
Yes	50.00	47.00						
Yes	60.00	43.00						

(2.a) Fill in the missing cells below.
(2.b) Should we produce anything? (circle one)   *YES   NO*
(2.c) [Answer only if answer to 2.b is "yes"] The profit-maximizing level of labor use is _____ hours, producing _____ units of the good, and providing profits of $_____

Price factory receives for its product	100	$ / unit produced
Hourly price / wage paid to workers	10	$ / hour
Fixed Costs	1,500,000	$ / acre
Other Variable Costs	0	$ / acre
Externality	IGNORE	$ / lb N

Produce anything?	Total hours of labor	Factory Production	Labor Costs	Revenues	Profits
NO	--------	--------	--------	--------	
YES	0	0			
YES	100	10,000			
YES	200	13,000			
YES	300	16,000			
YES	400	17,000			
YES	500	17,500			
YES	600	17,600			
YES	700	17,650			
YES	800	17,000			
YES	900	16,800			
YES	1000	16,500			