Homework 13
Due by beginning of class on April 21

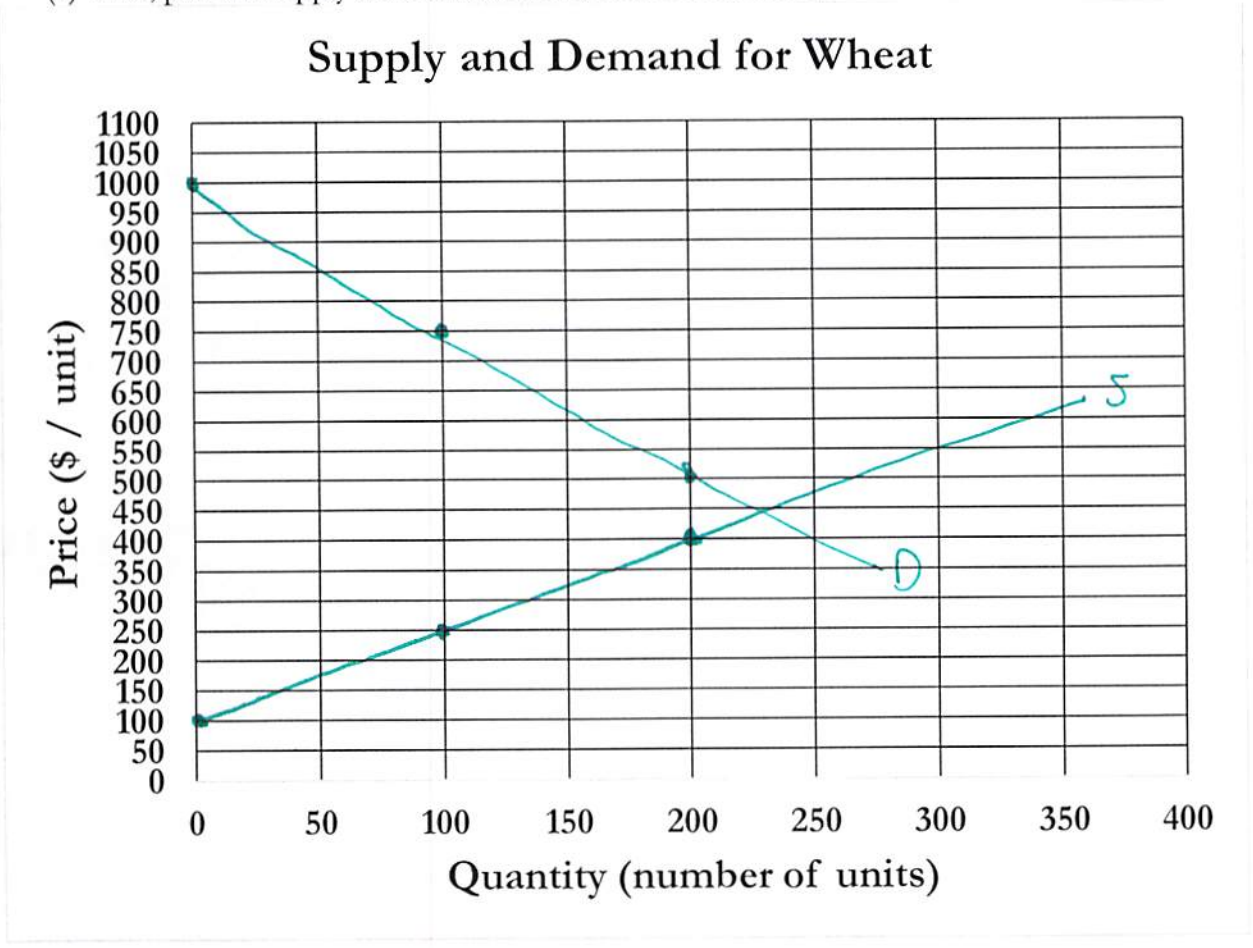
Name Key

Suppose that the supply and demand for wheat went by the following formulas. These are hypothetical numbers, not meant to reflect the actual quantity and price of wheat.

Supply: P = 100 + (1.5)(QS)
Demand: P = 1000 – (2.5)(QD)

Q	S: P	D: P
0	100	1000
100	250	750
200	400	500

(1) First, plot the supply and demand curves in the chart below.



(2) Using algebra, calculate the equilibrium price and quantity of wheat. Show your work.

(1) Set S = D
$100 + (1.5)(Q) = 1000 - (2.5)(Q)$
$(1.5)(Q) + (2.5)(Q) = 1000 - 100$
$(1.5 + 2.5)Q = 900$
$Q^E = \frac{900}{4} = 225$

(2) Plug Q^E into S & D curves
S: $100 + (1.5)(225) = 437.5$
D: $1000 - (2.5)(225) = 437.5$

$Q^E = 225 \quad P^E = 437.5$

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(3) Suppose the government establishes a price control whereby wheat must be sold at a price of $600 per unit. Will this cause a surplus or shortage of wheat, or neither?

a. surplus = excess supply
b. shortage = excess demand
c. neither a surplus nor a shortage

(4) Suppose the government establishes a price control whereby wheat must be sold at a price of $200 per unit. What will be the quantity supplied at this price?

Quantity supplied = 66 2/3 units

(5) Suppose the government establishes a price control whereby wheat must be sold at a price of $200 per unit. What will be the quantity demanded at this price?

Quantity demanded = 320 units

(6) Suppose the government establishes a price control whereby wheat must be sold at a price of $200 per unit. Will this cause a surplus or shortage of wheat, or neither?

a. surplus = excess supply
b. shortage = excess demand
c. neither a surplus nor a shortage

$$QS = \frac{(200 - 100)}{1.5} = 66\ 2/3$$

$$QD = \frac{(1000 - 200)}{2.5} = 320$$