

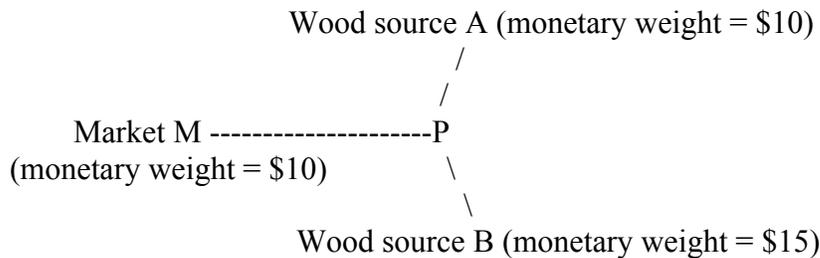
Midterm Exam

A. Short problems

You should allocate forty minutes of exam time to this section of the exam.

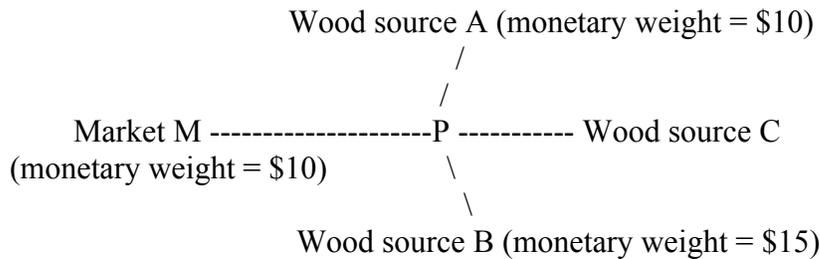
- (1) Consider a region that has a single factory city. In the region, people walk to work and to purchase consumer goods. Suppose solar-powered Segways (two-wheeled, self-balancing vehicles) are introduced at low cost. Will Segways cause the factory city to grow, shrink, or disappear? Why?

- (2) Consider the location choice of a table factory that makes furniture using several different types of wood to create an attractive pattern on its table tops. The table factory is currently located at the port (P) in the diagram:



- a) If the monetary weight of location A is \$20 instead of \$10, where will the firm locate, and why?

The factory decides to shift to using three different wood sources for its furniture:



- b) What would the monetary weight of location C have to be to draw the factory to it?

- (3) In the city of Zone, the actual number of liquor stores is less than the number that would occur in the absence of zoning. A recent survey of liquor prices suggests that Zone consumers pay less for liquor than people in a similar city without zoning.
- a) Why would liquor prices be lower in Zone?
 - b) Does the zoning policy make the residents of Zone better or worse off?
 - c) Suppose that Zone customers instead pay more for liquor than people in a similar city without zoning. What could make liquor prices be higher rather than lower in Zone?
 - d) Could zoning ever cause the actual number of stores to be greater than the number that would occur in the absence of zoning? Depending on whether you answered yes or no, explain either when this could happen, or why this could not happen.
- (4) In the state of Connecticut, apple growers' transport costs drop when a new highway is created through the middle of the state. The total apple output of Connecticut is large enough that the national price of apples is affected by changes in Connecticut's output.
- a) What happens to the output of Connecticut apple growers?
 - b) What happens to the market area of Connecticut apple growers?
 - c) How does this change affect apple consumers, Connecticut apple farmers, and Connecticut landowners?
 - d) What would happen in Massachusetts if farmers there were indifferent before the change between growing apples and growing pears?

B. Essay questions

You should allocate forty minutes of exam time to this section of the exam, twenty minutes to answering each question. Your grade on these answers will depend on the coherence and completeness of the answer and on your demonstrating knowledge of the material covered in this course. Use equations, graphs, or diagrams to illustrate your points when helpful.

- (1) Where do urban areas develop?
- (2) Why do cities differ in size and scope?