

Homework # 1

1) Shopping carts are about 50 percent larger today than they were 30 years ago. Give an economic explanation for this.

2) A university produces two commodities: research and teaching. The resources the university uses include faculty and staff, libraries, classrooms, and so on. The following schedule indicates some points on the university's PPF:

	A	B	C	D	E	F	G
Research	900	750	600	450	300	150	0
Teaching	0	60	110	150	180	200	210

a. Does research production by the university exhibit increasing, constant, or decreasing per-unit opportunity costs? How does this affect the shape of the university's PPF?

b. Graph the university's PPF (assuming that straight-line segments connect the points specified above). Indicate which areas of the graph correspond to unattainable production points; production points that make the most of the university's resources; and points where there are under-used resources.

c. Suppose that the university is at point B but would like to alter production to point C. What would be the *per-teaching-unit* opportunity cost of producing the extra teaching units?

d. Suppose that the university is at point C but would like to alter production to point B. What would be the *per-research-unit* opportunity cost of producing the extra research units?

e. What will happen to the university's PPF if the main library doubled its subscriptions to academic journals (assume the journals are not used to produce teaching but are used solely to produce research)? Graph the new PPF.

f. What will happen to the PPF if all of the campus resources are doubled? Graph the new PPF.

g. Suppose the university is at point F. The university president proposes to move the school to point B. She claims that B is a more desirable choice since the total output is 810 units (i.e., $750 + 60$) at point B versus 350 (i.e., $150 + 200$) units of total output at point F. Is the president correct? Why or why not?