

Study Units	Debate Units
0	12
1	11
2	10
3	9
4	8
5	7
6	6
7	5
8	4
9	3
10	2
11	1
12	0

William faces the production possibilities frontier located on your left. He can only choose between studying for his classes or do debate research. If he only concentrates on his academics then he will produce 12 "study units" and produce no "debate units". If he only concentrates on debate then he will produce 12 "debate units" and produce no "study units". Lets assume that William is a one-person economy.

Problem 1

Graphically show William's production possibilities frontier. Debate should be on the vertical axis.

Label four points on the graph: (A) a point inside the PPF; (B) a point on the PPF where debate is more valued than studying; (C) a point on the PPF where studying is more valued than debate; (D) a point outside the PPF.

Problem 2

Explain the effects of an economy at point A

Explain the effects of an economy at point B

Explain the effects of an economy at point C

Explain the effects of an economy at point D (assume that nothing in our economy changes)

Problem 3

What is the opportunity cost of studying?

What is the opportunity cost debating?

Why is the PPF slope downward rather than upward?

Does our PPF experience the law of increasing opportunity cost? How do we know? Under what conditions can we have a linear PPF rather than a "bowed-out" PPF? Sketch a PPF that experiences **increasing opportunity cost** and a PPF that experiences **constant opportunity cost**.

Problem 4

News Flash: William fails his last economics midterm. He realizes that he has spent too much time on the debate team, and not enough time on his academics. Lets assume he was on point B on the PPF before he failed his midterm. Where should he be on the PPF after he decides to spend more time studying for his classes? What should he do to reach this new point on the PPF?

Problem 5

Technological innovation. A new computer is invented that will help William study more and debate more. Show what happens in the PPF graph from problem 1. Assume that the opportunity cost of studying and debating do not change. And assume the effects of the technological innovation affect debate and studying equally. Label the new PPF as PPF1.

Technological devastation. A computer virus devastates William's computer. William needs to use the local computer lab on the other side of campus to do his studies and debate research. This is a huge inconvenience for William, so he is unable to study and debate as much as before. Show what happens in the PPF graph from problem 1. Assume that the opportunity cost of studying and debating do not change. And assume the effects of the computer virus affect debate and studying equally. Label the new PPF as PPF2.

What are the factors that will shift the PPF?

What are the factors that will shift a point along the PPF?