

Name: _____

Student # _____

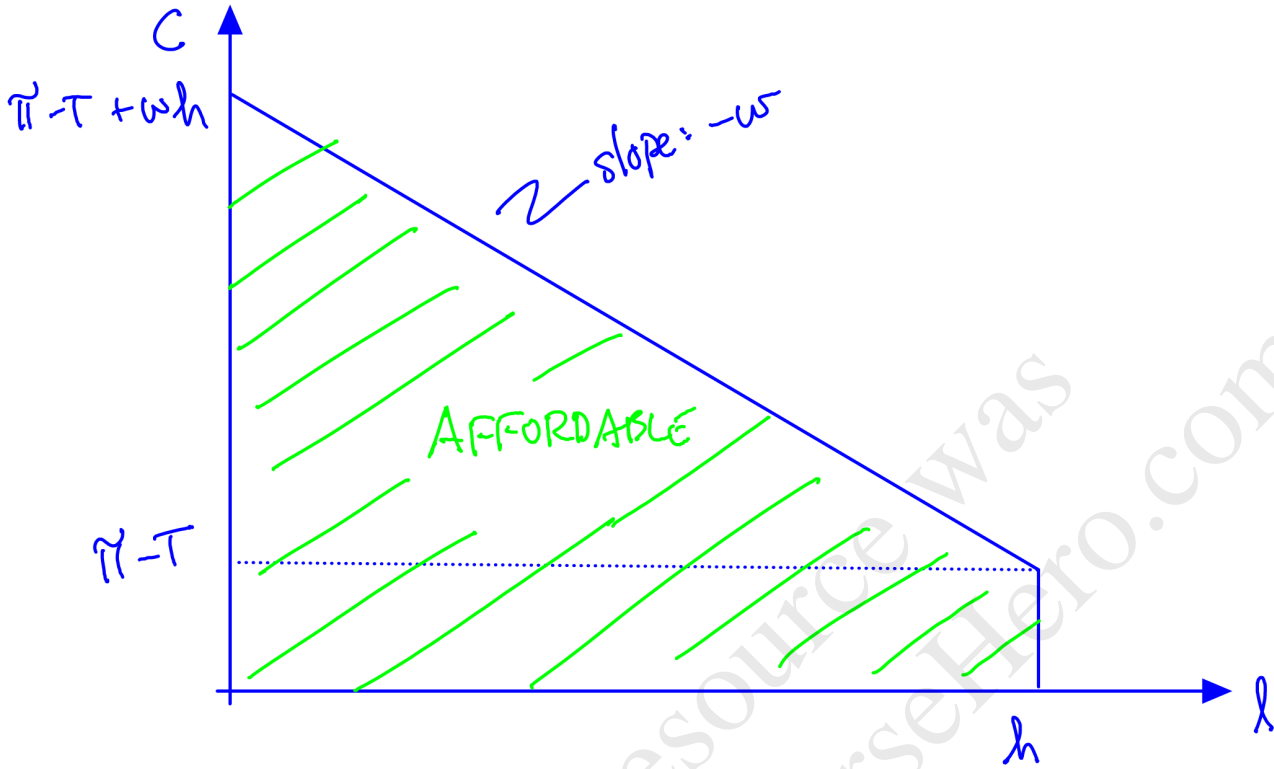
**Professor Paul Gomme
Economics 303B
Midterm Exam #1
October 7, 2015**

Instructions:

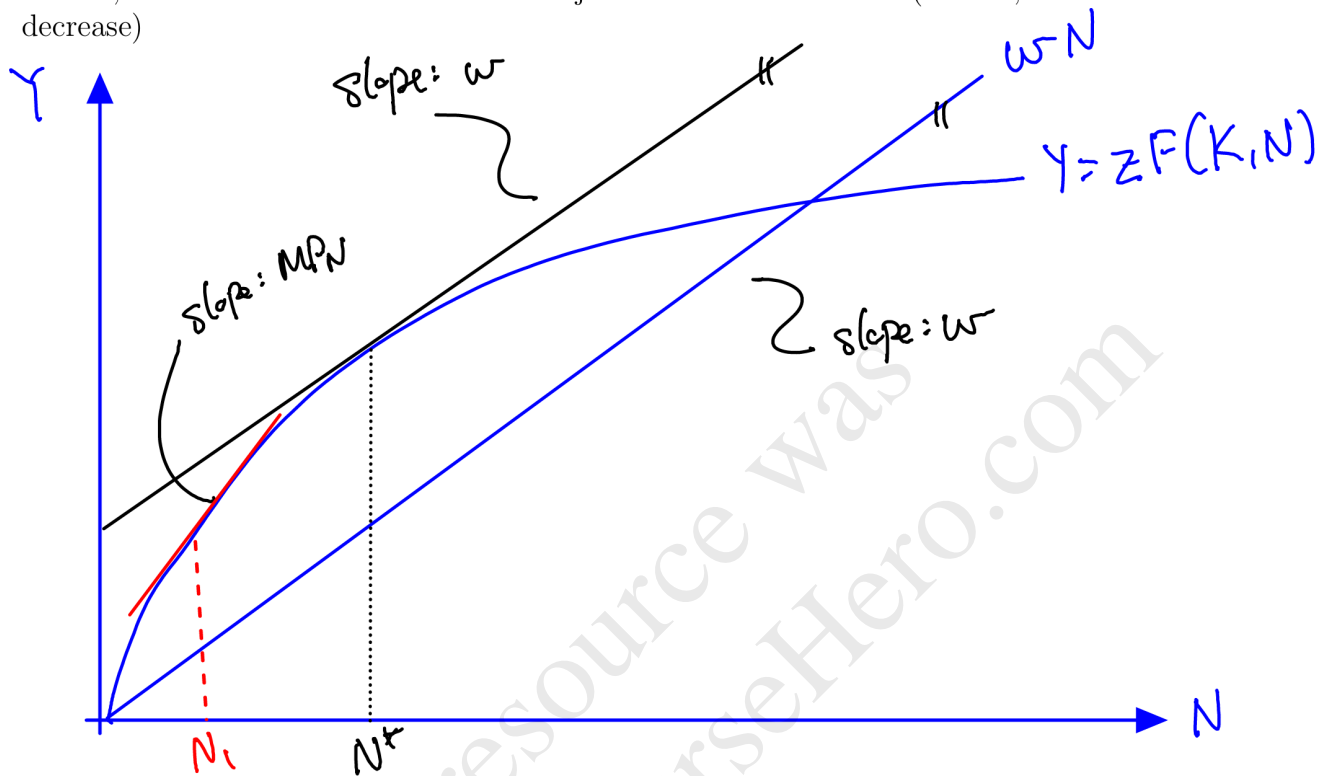
1. Do not start the exam until instructed to do so.
2. Answer *all* questions.
3. If you need more space for your answer, write on the back of the exam page and *clearly indicate* that your answer is continued on the back of the page.
4. No electronic devices (calculators, personal data assistants, notebook computers, etc.)
5. Leave knapsacks and other bags at the front of the exam room.
6. No papers or books of any sort.
7. No hats.
8. Write legibly. Use pen.
9. No cheating.

| Question | Points | Score |
|----------|--------|-------|
| 1 | 30 | |
| 2 | 10 | |
| 3 | 30 | |
| 4 | 30 | |
| Total: | 100 | |

2. (10 points) Draw and label as completely as possible the representative household's budget set, assuming that $\pi > T$.



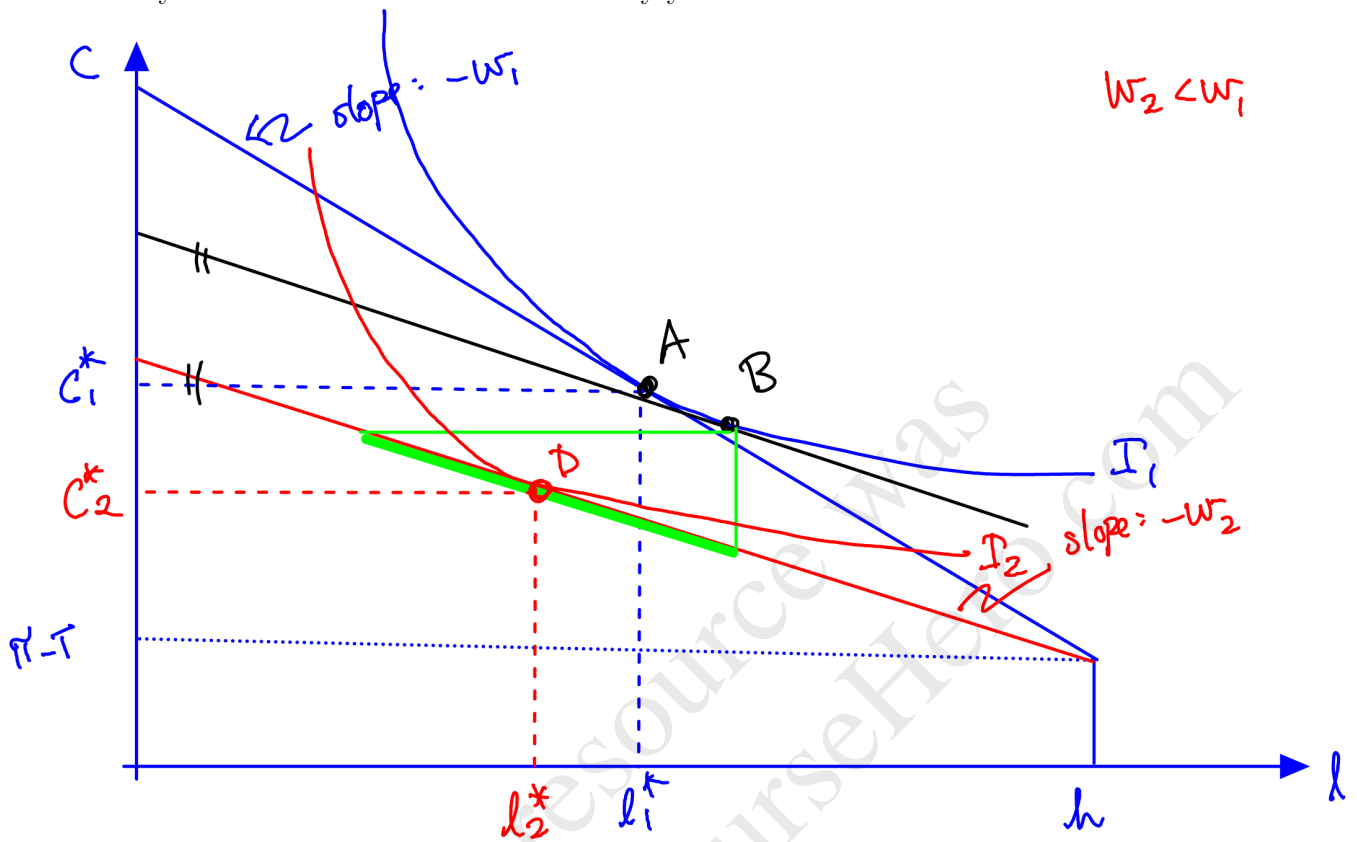
3. (30 points) Suppose that the firm has chosen a quantity of labor such that $MP_N > w$. Use a no arbitrage argument to show that the firm has not optimized. As part of your answer, indicate how the firm should adjust its choice for labor (that is, increase or decrease)



$$\pi = ZF(K, N) - wN$$

$$\frac{\partial \pi}{\partial N} = \underbrace{ZF_2(K, N)}_{MP_N} - w > 0$$

4. (30 points) True/False/Uncertain: In response to a *fall* in the real wage, workers will always *reduce* their hours of work. Justify your answer.



A to B: substitution effect: $C \downarrow, l \uparrow$

B to D: income effect: $C \downarrow, l \downarrow$

Net Effect: $C \downarrow, l ?$

$$N^s = h - l$$