

Place your name on the back of this sheet of paper and nowhere else. Staple your answers on the front of this sheet of paper. Failure to follow these directions will cost you 1 point. Your assignment will be typed, except graphs can be drawn by hand and mathematical equations can be done by hand. Failure to type it will cost you 10 points. If you use double-sided printing or print on the back of scrap paper, I will give you one additional point.

1A) (15 points) Suppose the price of apples is \$2/lb and the price of blueberries is \$5/lb. Further suppose your income is \$200. Draw the budget constraint/indifference curve diagram which corresponds to this situation. Briefly explain how you got the important points.

B) (5 points) Now suppose the price of apples goes up to \$4/lb. Illustrate the effects on the diagram and briefly explain why the line(s) moved as drawn.

C) (15 points) Draw additional line(s) to illustrate the income and substitution effects. Explain how you got them. **Given your diagram**, are apples and blueberries substitutes or complements? Explain your logic.

2) (10 points) What is the slope of the budget constraint when cars are on the horizontal axis and houses are on the vertical axis. Prove you have it correct.

3) (35 points) Suppose that chairs cost  $\frac{1}{3}$  the amount that desks cost. Draw the indifference curve/budget constraint diagram which corresponds to that. Explain how you know it is drawn correctly. Draw a decrease in the price of desks. Explain why the line(s) moved as drawn. Draw additional line(s) to illustrate the income and substitution effects. Explain how you got them. **Given your diagram**, are apples and blueberries substitutes or complements? Explain your logic.

4) (10 points) What would cause indifference curves to move? Explain your logic.