

Instructions: Answer each question showing your work. If it is an essay/thought question, then explain your answer in detail. Write your name on the first page only.

Problems _____
1 _____
2 _____
3 _____
4 _____
5 _____
6 _____
7 _____

Definitions _____
1 _____
2 _____
3 _____
4 _____
5 _____

Essays _____
1 _____
2 _____

Total _____

Part 1: Problems

1. Tom earns \$15 per hour for the first 40 hours of work each week. He is paid \$30 per hour for every hour worked over 40. Tom faces a 20% tax rate and pays \$4 in child care expenses for each hour he works. Tom receives \$80 in child support payments each week. There are 168 hours in the week. Graph Tom's weekly budget line. **(10 points)**

2. John works 45 hours per week when his wage is \$20. When his wage increases to \$30, he works 35 hours. What is John's elasticity of labor supply? What does this elasticity tell us about the substitution and income effects of the wage change? **(5 points)**

3. Jack's hourly wage is \$60 and the marginal value of his time in the household sector is \$25 per hour. Jill's hourly wage is \$50 and the marginal value of her time in the household sector is \$20 per hour. Who will specialize in the household sector and who will specialize in the market sector in this household? Will this specialization be complete for either Jack or Jill? **(8 points)**

4. Illustrate the effects of an increase in pension benefits on the retirement decision. What are the total, income and substitution effects? **(10 points)**

5. Using supply and demand analysis, illustrate the effects of immigration on wages and employment in both the sending and the receiving nation. Which groups gain and which ones lose? **(10 points)**

6. Suppose there are two types of coal mines: safe and unsafe. In safe mines, the fatality rate is 2 per 10,000 miners. In unsafe mines, the fatality rate is 7 per 10,000 miners. If workers in safe mines earn \$20,000 per year and workers in unsafe mines earn \$24,000 per year, then what is the statistical value of a life of a miner? **(8 points)**

7. Suppose there are two types of workers, high and low-ability. The total cost of a college education is \$8,000 for a high-ability person and \$20,000 for a low-ability person. If firms want to use pay scale as a screening device, and they pay \$25,000 to a person without a college diploma, what do they have to pay college graduates? **(10 points)**

Part 2: Define each of the following terms (3 points each)

Wage-schooling locus

Hedonic wage function

Elasticity of substitution

Discouraged worker effect

Reservation wage

Part 3: Essays (12 points each)

1. Describe three possible sources of monopsony power. How could we test these models against each other?

2. What are the main findings regarding the effects of education spending on performance? How do these findings affect the policy debate?