

## Factor Markets Practice FRQ

1. Assume the following information is for a firm that is the single demander of labor in a small Midwestern town:

McWimple's Widgets, Inc.				MP	MRP	MRC
TC	Wage rate (per hour)	Number of Workers	Total Product			
\$0	\$4.00	0	0	-	\$-	-
\$4.50	4.50	1	20	20	\$100	\$4.50
\$10.00	5.00	2	50	30	\$150	\$5.50
\$16.50	5.50	3	70	20	\$100	\$6.50
\$24.00	6.00	4	80	10	\$50	\$7.50
\$35.00	7.00	5	86	6	\$30	\$11.00
\$48.00	8.00	6	88	2	\$10	\$13.00
\$63.00	9.00	7	89	1	\$5	\$15.00
\$80.00	10.00	8	87	-2	-\$10	\$17.00

- A. Given the information, what is the marginal physical product of the 4th worker? (10)
- B. Explain why the marginal physical product increases, decreases, and then goes negative. What is this called and why does it happen? **LAW OF DIM. MAR. RET. ; FIXED CAP.**
- C. Assuming that the firm cannot use wage discrimination, what is the marginal resource cost of the 3rd worker? How did you calculate it? **\$6.50;  $\Delta TC / \Delta \text{INPUTS}$**
- D. If the price for each output were \$5:
- What would be the marginal revenue product of the 8th worker? **-\$10 (NEVER HIRE)**
  - How many workers will this monopsony hire and at what wage rate? Why?
  - How would this market's wage rate and employment be different if they were in a perfectly competitive labor market? **WAGE  $\uparrow$ ,  $Q_L \uparrow$  IF COMPETITIVE.**
- E. Show graphically the monopsonist's marginal resource cost curve (MRC), its labor demand curve (MRP), and the industry supply curve (SL). Identify the following:
- Quantity hired
  - wage rate paid

HIRE 5 WORKERS AT \$7.00 EACH. MRP > MRC UP TO 5th WORKER, NOT 6th.

