

Economics 152  
 Sample Problems for Chap. 4  
 Philip Babcock

1. As in Example 1 in Chapter 4 of Lazear, suppose you must pay a worker 40K a year and that there are 5 types of workers (A, B, C, D, E), as described in the Table below. Testing costs \$1000/worker and tells you only **whether a worker is or is not type E**. Is it worth it to screen workers and hire only type E? What is your expected profit per worker if you do?

Type	A	B	C	D	E
Prop. of Population	0.1	0.2	0.3	0.3	0.1
Ave Revenues	-100k	0	50k	100k	200k

2. You have three workers at your firm and two divisions, manufacturing and service (M & S). By rotating workers through both divisions, you have determined that the addition to net revenues generated by each worker is as follows:

Worker	Net revenues M	Net revenues S
1	200	190
2	50	30
3	20	40

a) Assuming that you can vary the size of both divisions in any way you want costlessly, who should work in M and in S? Explain your reasoning.

b) Suppose instead that because of large capital investments that your firm has made, you are currently required to put 1 worker into manufacturing and two into sales. What is the optimal job assignment now? Explain your reasoning and why the assignments change from part a).