

Cost Minimization

Notes on solution

Pk 50
Pl 20

Technology

$$Q = K^a L^b$$

a
b

$$\frac{Q}{K^a} = L^b$$

$$\left(\frac{Q}{K^a}\right)^{1/b} = L$$

$$\left(\frac{Q}{K^a}\right)^{1/b} = L$$

$$Q = K^a L^b$$

Change in cost from moving from the line above to the current line

0.4
0.6

Q	K	L	Check	Cost	Change	AC
100	40	184.20	100	5,684		56.84
100	41	181.19	100	5,674	-10	56.74
100	42	178.31	100	5,666	-8	56.66
100	43	175.53	100	5,661	-6	56.61
100	44	172.86	100	5,657	-3	56.57
100	45	170.29	100	5,656	-1	56.56
100	46	167.81	100	5,656	0	56.56
100	47	165.43	100	5,659	2	56.59
100	48	163.12	100	5,662	4	56.62
100	49	160.89	100	5,668	5	56.68
100	50	158.74	100	5,675	7	56.75

Answer:

Buy 46 units of capital and 167.81 units of labor (168 would be an OK answer too). The AC will be 56.56.