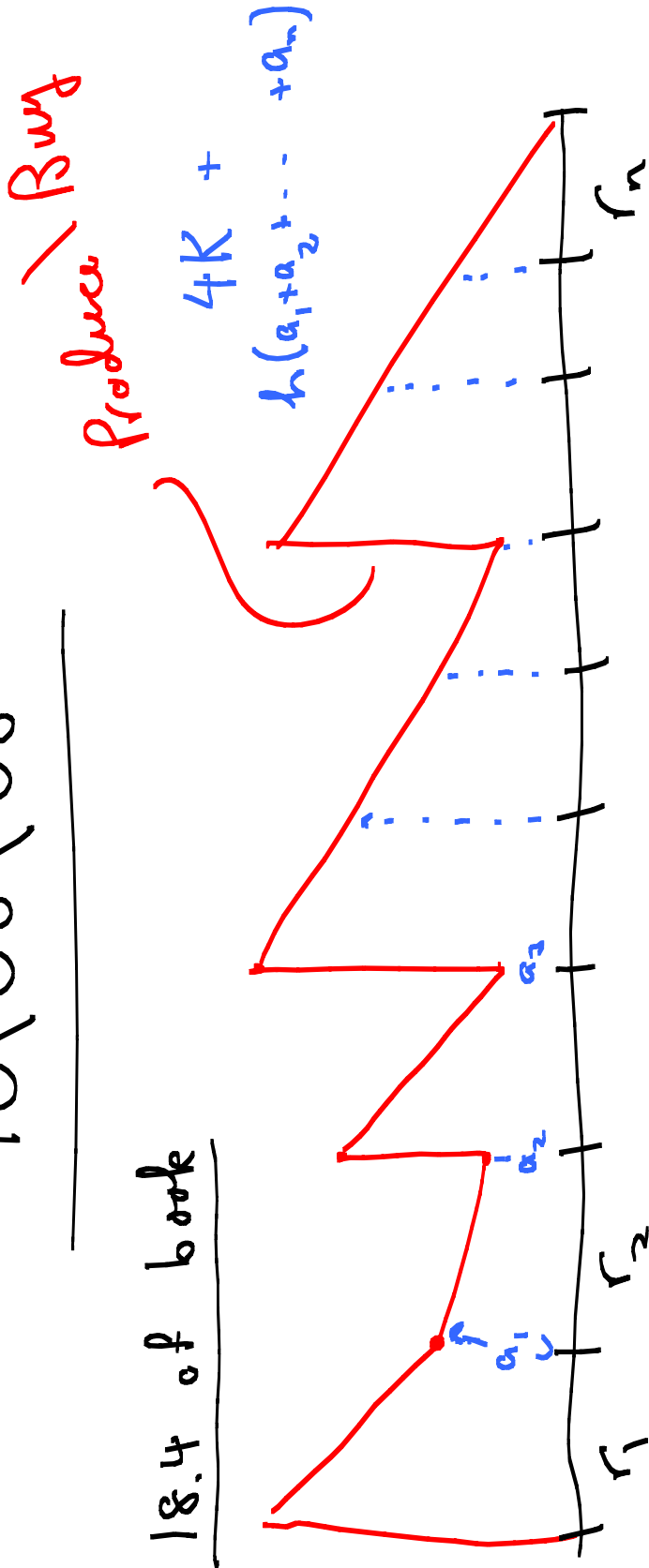


10/06/08

18.4 of book



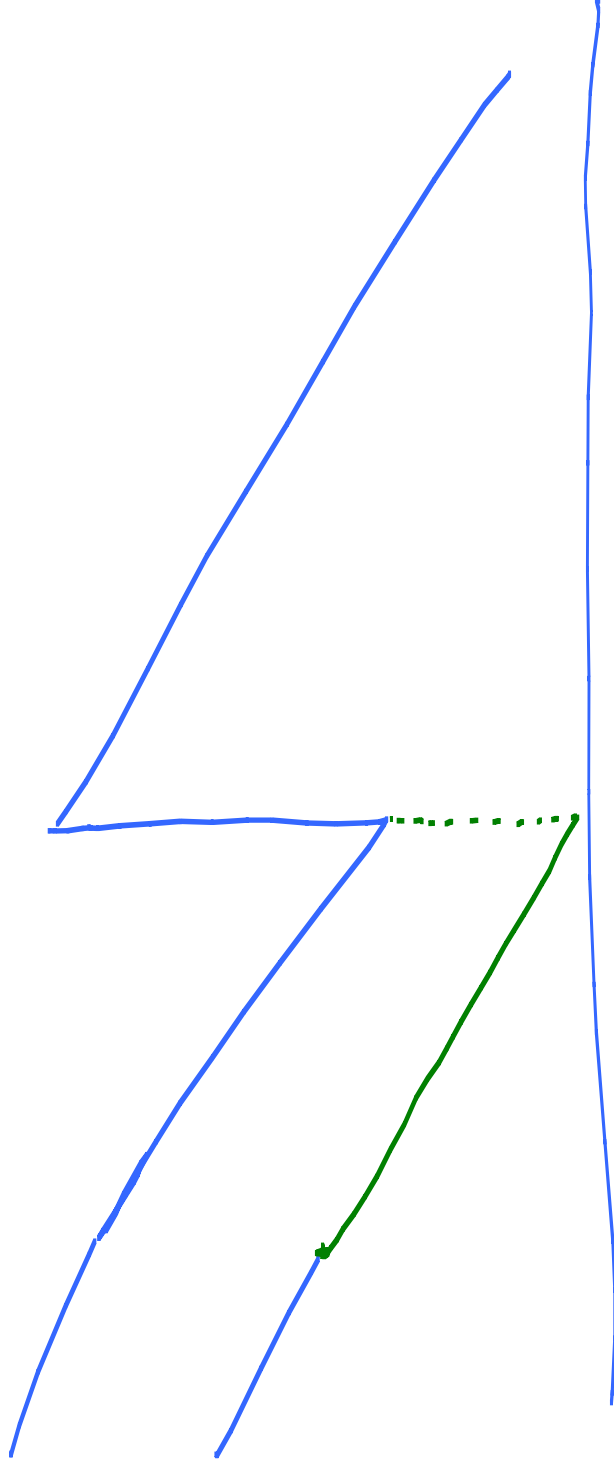
r_i = demand in period i

Costs: K = cost of making an order

h = inventory cost per unit

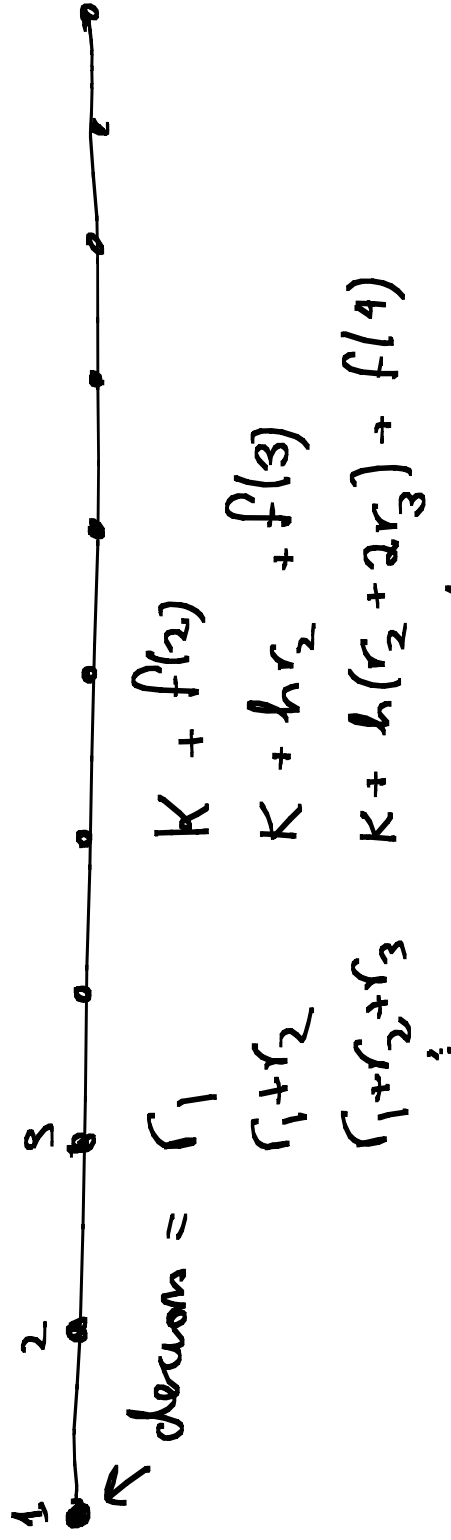
at end of each period,
 c = production cost

Observation: In minimal cost solution,
only produce/buy when
inventory is zero.



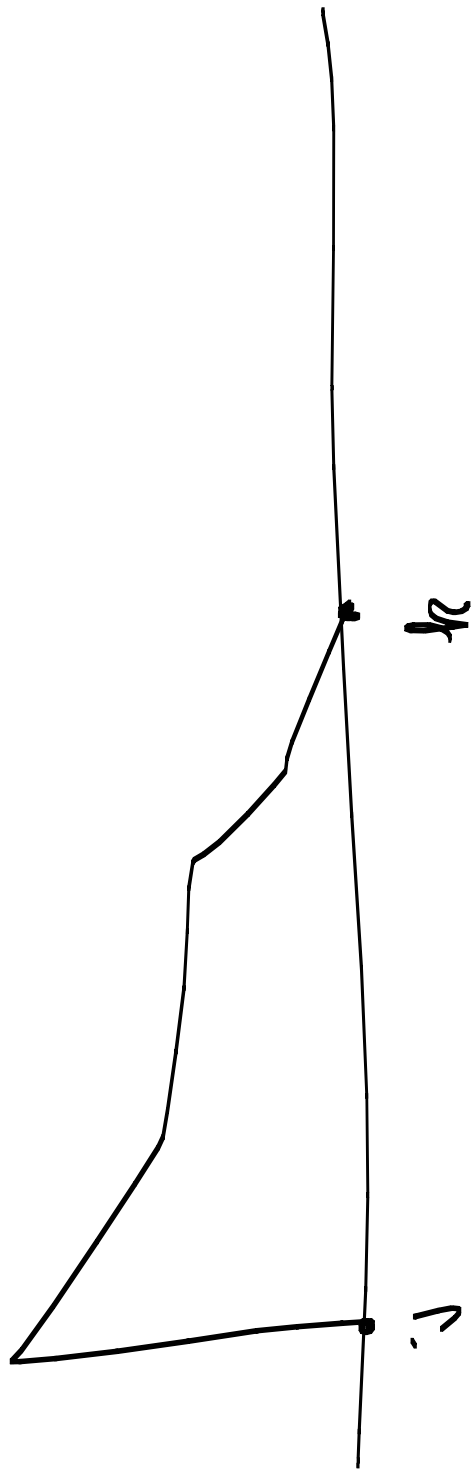
If you produce at beginning of period i
Then you produce r_j or $r_j + r_{j+1}$ or ...

So when you decide how much to produce, you just decide how many periods ahead to produce,



$f(i) = \text{min. cost of meeting demand in } i, i+1, \dots, n$

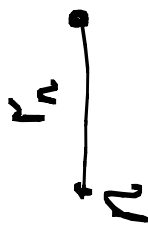
$$f(j) = \min_{j < k \leq n} \left[K + h(r_{j+1} + 2r_{j+2} + \dots + (k-j-1)r_{k-1} + f(k)) \right]$$



Compute $f(n), f(n-1), \dots, f(1)$



K

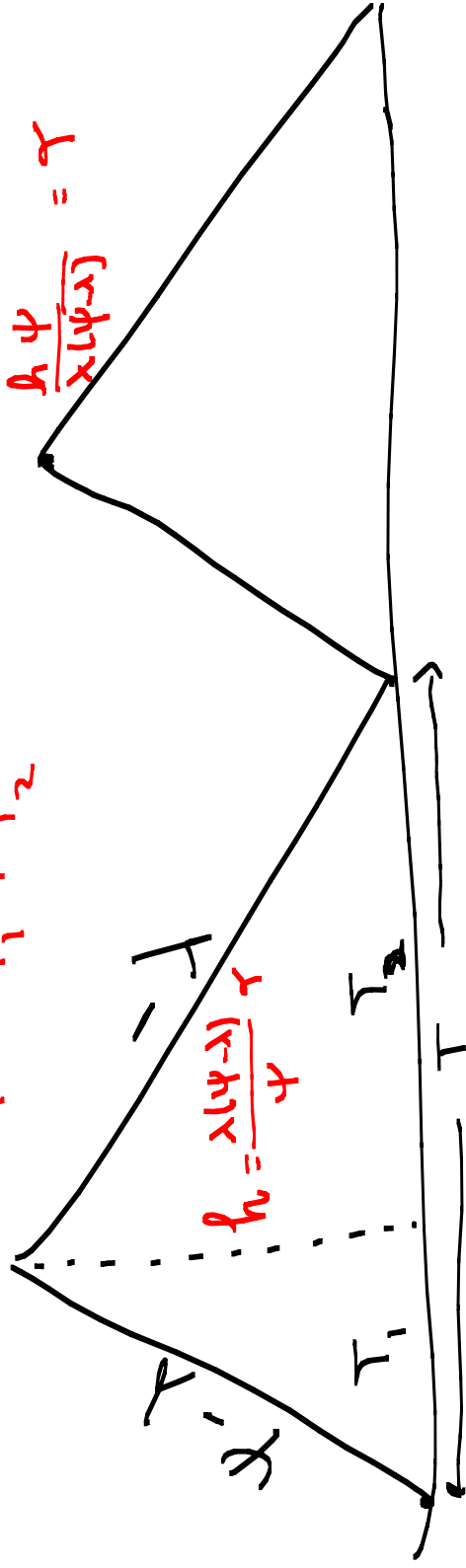


$$T_1 = \frac{h}{\psi - \lambda} \quad T_2 = \frac{h}{\lambda}$$

$$\frac{h}{\psi - \lambda} + \frac{h}{\lambda} = T$$

$$h = (\psi - \lambda) T_1 = \lambda T_2$$

$$T = T_1 + T_2$$



Produce at rate ψ

I = inventory cost

A = order cost

Cost =

Ordering Cost + Inventory Cost

$$\frac{A}{T} + \frac{1}{2} I h$$