

## Answer on Question #66021 – Economics – Economics of Enterprises

$$U=2500$$

$$C_o=18.75$$

$$C_p=15 \text{ per unit}$$

$$C_h=1.5 \text{ per unit}$$

$$L=2 \text{ days}$$

$$N=250$$

a)

$$EOQ = \sqrt{\frac{2UC_o}{C_h}}$$

$$EOQ = \sqrt{\frac{2 \cdot 500 \cdot 18.75}{1.5}}$$

$$EOQ = 111.8 \text{ or } 112 \text{ units}$$

b)

$$\text{Average inventory} = EOQ/2$$

$$\text{Average inventory} = 56$$

c)

$$N = U/EOQ$$

$$N = 2500/112 = 22.36$$

$$\text{Annual ordering cost} = N \cdot C_o$$

$$\text{Annual ordering cost} = 22.36 \cdot 18.75 = 419.26$$

d)

$$\text{Total annual inventory cost}$$

$$TC = C_p + C_h + C_o$$

$$TC = 15 \cdot 2500 + 1.5 \cdot 2500 + 18.75 \cdot 22.36 = 41669$$

e)

$$TBO = EOQ/D$$

$$TBO = (112/25000) \cdot 365 = 16.352 \text{ days}$$

f)

$$ROP = (U/n) \cdot L$$

$$ROP = 2500/250 \cdot 2 = 20 \text{ units}$$