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MT 14 14 – D (LEC)

Formulas:

$$EOQ = \sqrt{\frac{\text{Annual usage} \times \text{cost of ordering} \times 2}{\text{annual holding cost per unit}}}$$

$$EOP = \frac{\text{annual usage}}{365 \text{ days}} \times \text{lead time in days}$$

$$ROT = \frac{EOQ}{\text{annual usage}} \times 365 \text{ days}$$

Problem 1:

$$EOQ = \sqrt{\frac{2(8000)(10,250)}{1000}}$$

$$EOQ = 405$$

$$EOP = \frac{8000}{365} \times 5$$

$$EOP = 110$$

$$ROT = \frac{405}{8000} \times 365$$

$$ROT = 18$$

Problem 2:

$$EOQ = \sqrt{\frac{2(2000)(4350)}{2000}}$$

$$EOQ = 93$$

$$EOP = \frac{2000}{365} \times 10$$

$$EOP = 55$$

$$ROT = \frac{93}{2000} \times 365$$

$$ROT = 17$$

Problem 3:

$$EOQ = \sqrt{\frac{2(12000)(9850)}{6000}}$$

$$EOQ = 198$$

$$EOP = \frac{12000}{365} \times 15$$

$$EOP = 493$$

$$ROT = \frac{198}{12000} \times 365$$

$$ROT = 6$$

For maximum financial benefit and storage space utilization, **order 405 boxes of syringes** each time the inventory drops to **110** (about every **18 days**).

For maximum financial benefit and storage space utilization, **order 93 boxes of red top tubes** each time the inventory drops to **55** (about every **17 days**).

For maximum financial benefit and storage space utilization, **order 198 boxes of glass slide** each time the inventory drops to **493** (about every **6 days**).