1.   Taylor's Convenience store carries milk that is replenished every Wednesday. Joe the milkman arrives and checks the inventory of 2% milk in the fridge. Today there are 2 bags left. The target for this store is 16 bags of milk. How many bags of milk should be restocked?

Q = R – I = 16 – 2 = 14

2.   Taylor's Convenience store has been experiencing stock-outs of milk on occasion and she recognizes that customers who come in for milk buy impulse items like chocolate bars and lottery tickets. When milk is not in stock, the customer goes elsewhere.   She just bought a new computer system that keeps track of inventory. Her son, a Materials and Operations Management student, was telling her about a cool order technique called reorder point.   She estimates she will sell 1460 bags of milk this year. The lead time to order milk is 2 days and she would like to carry 8 bags of milk for safety stock. What is the order point?

ROP = dL + SS = [(1460 / 365) * 2] + 8 = 4 * 2 + 8 = 16

3.   Taylor's son also told her that Inventory turnover is a good measure on how effectively you are managing your inventory.   Her yearly sales are $250,000 and on average her inventory is $20,000. What are the stores inventory turns?

Turns = COGS / avg. inv. = $ 250,000 / $ 20,000 = 12.5

4.   Fastenal supplies it's customers with a widget which has sales of 5,000 units annually. It costs $ 20 for them to prepare an order and their annual holding cost is $.20 per widget. To minimize their cost, how many should they order at a time?

EOQ = sqrt (2DS/H) = sqrt [(2 * 5,000 * 20) / .20]

= sqrt (200,000 / .2) = sqrt (1,000,000) = 1,000