Question 2:

The purchasing manager for the Pacific Steel Company must determine a policy for ordering coal to operate 12 converters. Each converter requires exactly five tons of coal per day to operate, and the firm operates 360 days per year. The purchasing manager has determined that the ordering cost is $80 per order, and the cost of holding coal is 20% of the dollar value of inventory held. The purchasing manager has negotiated a contract to obtain the coal for $12 per ton for the coming year.

a. Determine the optimal quantity of coal to receive in each order.
b. Determine the total inventory-related costs associated with the optimal ordering policy (do not include the cost of the coal).
c. If five days' lead time is required to receive an order of coal, how much coal should be on hand when an order is placed?

n	12	converters
d	5	tons/day/converter
Working days	360	days/year
Co	$80	/order
h	20%	
C	$12	/ton

Ch	$2,40
D	21.600

a. Optimal quantity to receive:

EOQ	1.200	tons

b. Total inventory-related costs (not including the cost of coal):

TC	$2.880

c. Reorder point:

L	5	days
R	300	tons