Solution

1. UOM is in EA

2.

Dataset	Total Lines	Lines per Order	Method
OrderSet1	41	2.05	zone-batch
OrderSet2	16	2.00	batch
OrderSet3	38	4.22	zone

3.

SKU	Lines per Item	Cube Movement	Equipment Type
1	5	1656	carton flow rack
2	3	1080	bin shelving
3	4	256	vertical lift module
4	5	1092	bin shelving
5	8	1140	horizontal carousel
6	7	1880	carton flow rack
7	3	270	storage drawers
8	6	364	A-frame

4. Cube might be less than the product of the item's dimensions, allowing nesting for packaging.

5.

SKU	1	2	3	4	5	6	7	8
1	—			2	3	1	1	
2		—	1	1		1	1	3
3			—				1	2
4				—	2	3		1
5					—	4		1
6						—		2
7							—	1
8								—

6. Three different cartons sizes are available to pick-and-pack the orders in "OrderSet1": A ($8 \times 6 \times 6$ in.), B ($12 \times 8 \times 6$ in.), and C ($16 \times 10 \times 8$ in.). Determine which carton that should be used for each orders 1–4:

Order	Carton	Order	Carton	Order	Carton	Order	Carton
1	B	2	C	3	B	4	B

Order	Cube	Max Dim	Carton
1	484	6	B
2	936	7	C
3	360	6	B
4	324	6	B
Carton			
A	288	8	
B	576	12	
C	1280	16	

7. Can use SDPI to find best assignment, where **W** = Demand Correlation Matrix

SKU	Group (a)	Lines per Item	Slot (d)
1	1	5	A4
2	2	3	B3
3	2	4	B2
4	1	5	A3
5	1	8	A1
6	1	7	A2
7	2	3	B4
8	2	6	B1
Group	Orders Completed (b)		Aisle (c)
1	3,5,6,7,9,10,11,12,13,14,16,18		B
2	1,15,17,19,20		A