

Var No	Variable	Type	Dimension Set	Value / Formula	Comments
1	Base Price	Input		100	Base price of the Standard widget
2	Base Price Multiplier	Data	Product	(1, 1.45)	Base price multiplier for each product with respect to the Standard widget
3	Unit Production Cost	Data	Product	list of values	The cost of producing each type of product
4	Rebate Percentage	Data	Sector	list of values	The price rebate given to clients of each sector
5	Sector Price Factor	Calculated	Sector	1-Rebate Percentage	
6	Sector Base Price	Calculated	Sector	Base Price * Sector Price Factor	Base price of the Standard widget sold in the sector
7	DemParA	Data	Sector	list of values	Parameter A of the sector's demand function
8	DemParB	Data	Sector	list of values	Parameter B of the sector's demand function
9	Sector Annual Demand Units	Calculated	Sector	DemParB/Sector Base Price^DemParA	Estimated demand for the sector, in units
10	Unit Delivery Cost	Data	Region	list of values	Cost of delivering one widget to clients of the region
11	PR Unit Cost	Calculated	Product-Region	Unit Production Cost + Unit Delivery Cost	Cost of producing and delivering one unit
12	Product Distribution per Sector	Data	Sector-Product	list of values	Sum for each Sector should be 100%
13	Annual Sector-Product Unit Sales	Calculated	Sector-Product	Sector Annual Demand Units * Product Distribution per Sector	Annual sales
14	Price	Calculated	Sector-Product	Sector Base Price * Base Price Multiplier	Price of each product in each sector
15	Annual Sector-Product Sales Amount	Calculated	Sector-Product	Annual Sector-Product Unit Sales * Price	Annual sales amount of each product in each sector
16	Region Sales Distribution per Sector	Data	Sector-Region	list of values	Sum for each Sector should be 100%
17	Monthly Sales Distribution per Sector	Data	Month-Sector	list of values	Sum for each Sector should be 100%
18	MSP Unit Sales	Calculated	Month-Sector-Product	Annual Sector-Product Unit Sales * Monthly Sales Distribution per Sector	Unit Sales per month, sector and product
19	MSP Sales Amount	Calculated	Month-Sector-Product	Annual Sector-Product Sales Amount * Monthly Sales Distribution per Sector	Sales Amount per month, sector and product
20	MSPR Unit Sales	Calculated	Month-Sector-Product-Region	MSP Unit Sales * Region Sales Distribution per Sector	Unit Sales per month, sector, product and region. (This is the finest granularity of the Unit Sales)

21	MSPR Variable Cost	Calculated	Month-Sector-Product-Region	MSPR Unit Sales * PR Unit Cost	The variable cost of producing and selling the widgets per month, sector, product and region.
22	Monthly Variable Cost	Calculated	Month	SUM(MSPR Variable Cost)	The monthly variable cost of producing and selling all the products in all the regions and for all the sectors.
23	Monthly Unit Sales	Output	Month	SUM(MSPR Unit Sales)	The monthly number of units of all the products in all the regions and for all the sectors.
24	Monthly Sales Amount	Calculated	Month	SUM(MSP Sales Amount)	The monthly sales amounts of all the products in all the regions and for all the sectors.
25	Monthly Fixed Cost	Data		20000	Fixed cost incurred each month
26	Monthly Costs	Calculated	Month	Monthly Fixed Cost + Monthly Variable Cost	The monthly costs of all the products in all the regions for all the sectors.
27	Monthly Profit	Calculated	Month	Monthly Sales Amount - Monthly Costs	The monthly profit of all the products in all the regions for all the sectors.
28	MPR Unit Sales	Output	Month-Product-Region	SUM(MSPR Unit Sales)	The number of units sold for all the sectors per month, per product and per region.
29	MP Unit Sales	Output	Month-Product	SUM(MSP Unit Sales)	The number of units sold for all the sectors and in all the regions per month and per product.
30	MP Sales Amount	Output	Month-Product	SUM(MSP Sales Amount)	The sales amount for all the sectors and in all the regions per month and per product.
31	Total Profit	Output		SUM(Monthly Profit)	The total profit.

Note: When we use SUM in a formula, it's a generic formulation that needs to be implemented with the Excel function of your choice. The dimension(s) over which the summation is performed is easily deduced from the dimensions of the summed variable and the result variable. So, the formula of variable 29 is:

$$\text{MP Unit Sales}_{\text{Month, Product}} = \sum_{\text{Sector}} \text{MSP Unit Sales}_{\text{Month, Sector, Product}}$$

For variable 23, it is:

$$\text{Monthly Unit Sales}_{\text{Month}} = \sum_{\substack{\text{Sector} \\ \text{Product} \\ \text{Region}}} \text{MSPR Unit Sales}_{\text{Month, Sector, Product, Region}}$$