Economic Order Quantity (EOQ)

The calculation of the Economic Order Quantity (EOQ) = the square root of [(2 times **the annual demand in units** *times* **the cost to process an order)** divided by **(the costs to hold or carry an item** expressed as a dollar amount per year**)]**

Annual demand in units	150,000	**D**		
Incremental cost to process an order	$ 150.00	**P**		
Constant value required in the calculation	2			
Numerator	$ 45,000,000	**N**	(D x P x 2)	
Incremental cost per unit to hold item for one year	$ 20.00	**H**		
Amount before taking the square root	2,250,000	**X**	(N / H)	
Economic Order Quantity (EOQ)	*1,500*	**EOQ**	(square root of X)	

Notes:

EOQ The economic order quantity model calculates the quantity of goods to be ordered so that the *combined* annual costs of *processing orders* and *holding or carrying* inventory items are minimized. The economic order quantity is also known as the optimum lot size.

D The demand for the units is assumed to be constant throughout the year. In other words, it is assumed that there are no seasonal fluctuations.

P The cost of processing an order includes the incremental (perhaps variable) costs that occur when goods are ordered by the company. The ordering costs include the cost of preparing a requisition, purchase order, receiving ticket, stocking the items, processing the accounts payable and remitting payment.

H Holding costs are the incremental costs of carrying items in inventory for one year. The holding costs include the cost of the physical space used for storage, insurance, cost of capital, obsolescence, deterioration, and property taxes if applicable.

For a blank form see **Form G8**.
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