Economic Order Quantity

In this tutorial, we will examine how to calculate an economic order quantity (EOQ) and the reorder point (ROP).

Neha Shah is the purchasing agent for a firm that sells industrial valves and fluid control devices. One of the most popular valves is the KA1, which has an annual demand of 6,000 units. The cost of each valve is $120 and the inventory carrying cost is estimated to be 8% of the cost of each valve. It also costs her an additional $45 each time she orders and it takes about two weeks for an order to arrive from the supplier. The demand for KA1 valves is approximately 120 per week.

To calculate the EOQ, open Excel QM, click on the Excel QM tab → Alphabetical → Inventory → Economic Order Quantity.
Be sure you tick the box for **Reorder Point** and uncheck the box for **Graph**.

Click **OK**. A spreadsheet will appear.
Now enter the data into the spreadsheet. Our demand rate is 6000, the ordering cost is $45, the holding cost is 8% of 120, or $9.60, and our unit price is $120. For the daily demand rate, we can use our weekly demand of 120, or 24 per day and our lead time in weeks is 2, or 10 days. Once you enter the data, the results will be automatically calculated.

We can see that our EOQ is 237.17, or rounded up to 238. Our reorder point is 240 units, so when we get our inventory to 240 units, it is time to reorder. Click here to download the completed sample spreadsheet so you can compare it to yours.

This concludes the tutorial on calculating EOQ using Excel QM.