

6. A company's supplier offers price discount on various order quantities. **(10 marks)**

Quantity (units)	Price
0 to 49	\$6
50 to 99	\$5.5
100 and above	\$5

Ordering cost = \$3/order, which does not change as more units are purchased.

Inventory cost = \$1.5/unit/year, which also increases at an incremental rate of \$1.5/unit.

Annual demand = 90 units.

Find the optimal order quantity. Also, draw a conceptual graph to show the work. (Don't need to use any application/tool; a simple hand drawn graph should be fine).