Question #67406

Table 1. The calculation of Elasticity of Demand

	Case 1	Case 2	P- price level or value									
			Case 1	Case2	Case 1	Case2	Case 1	Case2	Case 1	Case2	Case 1	Case2
Demand function form	$QX=100-2p^2$	QX=100-2p	6		5		4		3		3to5	
∂QX/∂P	-4P	-2	-24	-2	-20	-2	-16	-2	-12	-2		
P/QX			0.21		0.10		0.06		0.04			
Elasticity = ∂QX/∂P*(P/QX)			-5.14	-0.43	-2.00	-0.20	-0.94	-0.12	-0.44	-0.07	-0.44 to -2.00	-0.07 to -0.20

Explanation of table 1

First, I will start to describe the content of the table. In the table one, we have represented 2 cases, as I do not understand clearly the form of the function of demand. However, I have done calculation for all possible cases I can imagine. As we can see there are case 1: $QX=100-2p^2$ and case 2: QX=100-2p. ∂QX/∂P shows the derivative of the function for each case: -4p and -2. We also have price levels 6 and 3 to 5: Under the price level, I have calculated the value of the derivative function -4p and -2 for each cases and for each level of price! The next step is the calculation of the expression P/QX. The final step is the determination of elasticity for price 6 and for price 3-5.

a) In the table we can see that for case 1, when price is six the elasticity will be equal to -5.14. The result whispers us that when price is six, the demand will be declined for 5.14%. For case 2 the demand cut will be 0.43%:

b) For the price range 3-5 and case 1 the demand elasticity will cover interval of -0.44% to -2.00%, for case 2 the interval will be -0.07% to -0.20%.

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