QUESTION

Joy's frozen yogurt shops have enjoyed rapid growth in northeastern states in recent years. From the analysis of joy's various outlets, it was found that the demand curve follows this pattern. $Q = 200 - 300P + 120I + 65T - 250Ac + 400Aj$

Q= number of cups served
I= per capita income
T= average outdoor temperature
Ac= competition's monthly advertising expenditure
Aj=joy's own monthly advertising expenditures

P=1.50, I=10, T=60, Ac=15, Aj=10

a) Estimate the number of cups served per week and determine outlet demand curve
b) What would be the effect of a $5000 increase in the competitors' advertisement expenditure and outlet demand curve?
c) What would joy's advertising expenditure have to be to counteract this effect?

ANSWER

a) Number of cups served/week: $Q = 200 - 450 + 1200 + 3900 - 3750 + 4000 = 5100$ (cups).
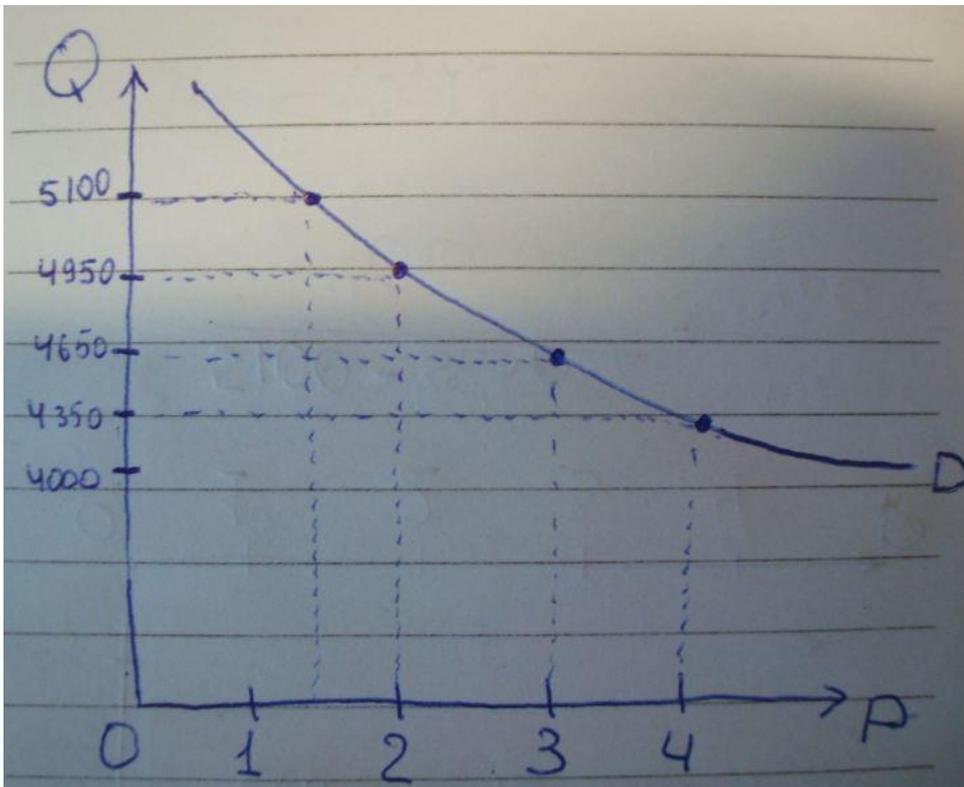
b) Number of cups served/week under new conditions: $Q' = 200 - 450 + 1200 + 3900 - 5000 + 4000 = 3850$ (cups).
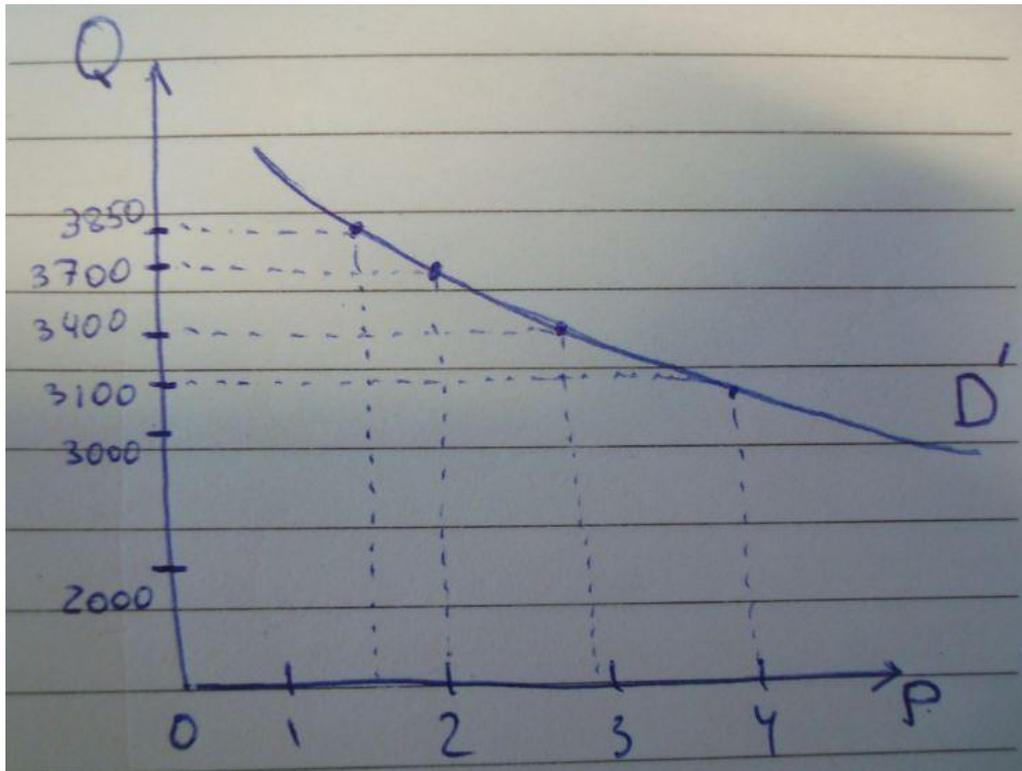
c) $Q = 4850 - 3750 + 400 * 10 = 5100$; $Q' = 4850 - 5000 + 400 * x = 5100$; $x = 13,125$. Joy's advertising expenditures should be 13,125 * 400 = 5250$.