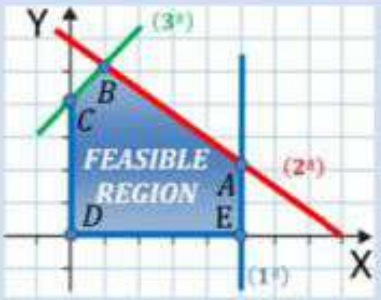
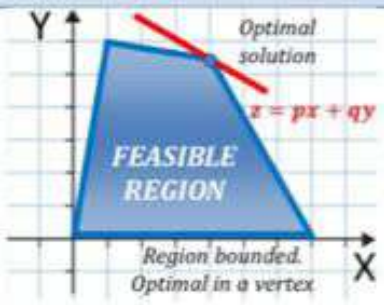
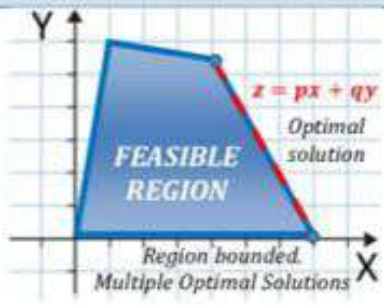
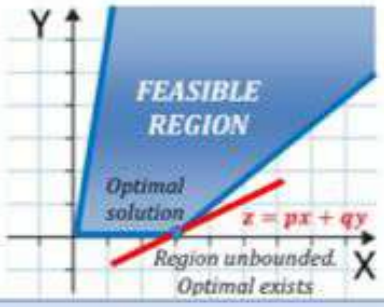
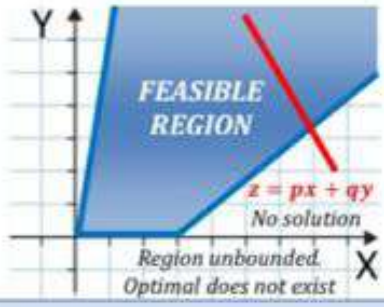
Summary of Linear programming

LINEAR PROGRAMMING PROBLEM

$$\text{opt } z = px + qy$$

$$\text{subject to } \begin{cases} a_1x + b_1y \le c_1 \\ a_2x + b_2y \le c_2 \\ \vdots \\ x, y \ge 0 \end{cases}$$

STEPS TO SOLVE A LINEAR PROGRAMMING PROBLEM	
Planning	Define the **unknowns** x and y. If it is possible, build a table.
Linear Programming Problem	Write the **objective** function. Write the **constraints** as a system of inequalities. $\text{opt } z = px + qy$ $\text{subject to } \begin{cases} a_1x + b_1y \le c_1 \\ a_2x + b_2y \le c_2 \\ \vdots \\ x, y \ge 0 \end{cases}$
Feasible Region	Represent graphically the **feasible region**. Calculate the **vertices** from the feasible region. 
Optimus Value	   
	Calculate the **value of the objective function** at each of the vertices to determine which of them has the maximum or minimum values. It must be considered the region bounded or unbounded.