A furniture company displays bedroom sets which require 21 square meters of space and living room sets which require 42 square meters of space. The company, which has 546 square meters of available space, wants to display at least 6 bedroom sets and at least 5 living room sets.

17. Let b represent the number of bedroom sets and , ℓ represent the number of living room sets. Write a system of inequalities to represent the number of furniture sets that can be displayed.

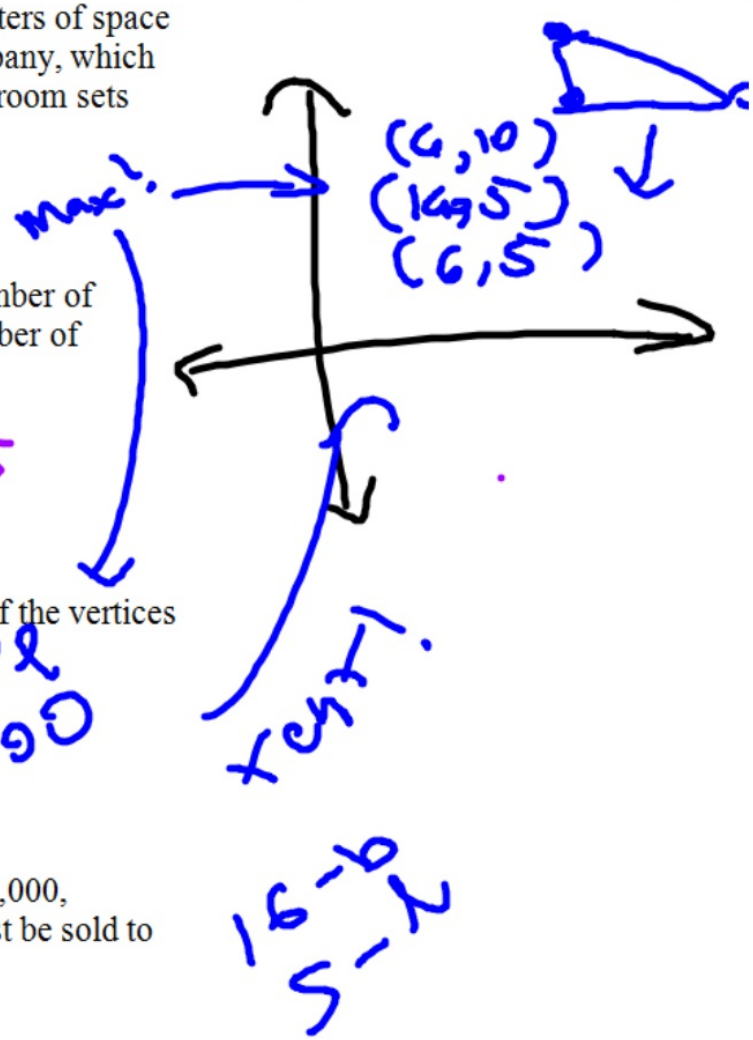
$21b + 42\ell \leq 546$

$b \geq 6, \ell \geq 5$

18. Draw the graph showing the feasible region. Label the coordinates of the vertices of the feasible region.

Profit $= 10{,}000b + 18{,}000\ell$

$= 250{,}000$



19. If a bedroom set sells for \$10,000 and a living room set sells for \$18,000, determine the number of bedroom sets and living room sets that must be sold to maximize the amount collected.

16 - 6

5 - 2