

# Linear Programming

A furniture manufacturer makes wooden tables and chairs. The production process involves two basic types of labor: carpentry and finishing. A table requires 2 hours of carpentry and 1 hour of finishing, whereas a chair requires 3 hours of carpentry and  $\frac{1}{2}$  hour of finishing. The profit is \$35 per table and \$20 per chair. The manufacturer's employees can supply a maximum of 108 hours of carpentry work and 20 hours of finishing work per day. How many tables and chairs should be made each day to maximize profit?

Click on the link to the linear programming website. It will give you an explanation of linear programming and some examples. Answer the problem above. Print the graph paper on the following page and use it to graph your solution. Indicate the level of production that will maximize profits. Write the equations you used in your solution.



