Tots Toys makes a plastic tricycle that is composed of three major components: a handlebar-front wheel-pedal assembly, a seat and frame unit, and rear wheels. The company has orders for 12,000 of these tricycles. Current schedules yield the following information.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Requirements |  |  | Cost to | Cost to |
| Component | Plastic | Time | Space | Manufacture | Purchase |
| Front |  3 | 10 |  2 | 8 | 12 |
| Seat/Frame |  4 |  6 |  2 | 6 |  9 |
| Rear wheel (each) | .5 |  2 | .1 | 1 |  3 |
|  Available | 50000 | 160000 | 30000 |  |  |

The company obviously does not have the resources available to manufacture everything needed for the completion of 12000 tricycles so has gathered purchase information for each component. Develop a linear programming model to tell the company how many of each component should be manufactured and how many should be purchased in order to provide 12000 fully completed tricycles at the minimum cost.