

```

NMaximize[{2000 x1 + 1000 x2,
  {40 x1 + 20 x2 ≤ 280, 20 x1 + 50 x2 ≤ 300, 2 x1 ≤ 12, x1 ≥ 0, x2 ≥ 0}}, {x1, x2}]
{14000., {x1 → 6., x2 → 2.}}

NMaximize[{2000 x1 + 1000 x2,
  {40 x1 + 20 x2 ≤ 280, 20 x1 + 50 x2 ≤ 300, 2 x1 < 12, x1 ≥ 0, x2 > 2}}, {x1, x2}]
{14000., {x1 → 6., x2 → 2.}}

p1 = ContourPlot[2000 x1 + 1000 x2, {x1, 0, 15}, {x2, 0, 15},
  ContourShading → None, FrameLabel → Automatic, ContourLabels → True];
p2 = ContourPlot[2000 x1 + 1000 x2 == 14000, {x1, 0, 15},
  {x2, 0, 15}, ContourStyle → {Green, Thick}];
p3 = ContourPlot[{40 x1 + 20 x2 == 280, 20 x1 + 50 x2 == 300, 2 x1 == 12},
  {x1, 0, 15}, {x2, 0, 15}, ContourStyle → {Red, Blue, Purple}];
Show[
  p1,
  p2,
  p3]

```

