



## MITx: 15.053x Optimization Methods in Business Analytics





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**Lecture**Lecture questions due Sep 27,  
2016 at 19:30 IST **Recitation****Problem Set 3**Homework 3 due Sep 27, 2016 at  
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## Big M Exercise


(1/1 point)

Suppose that we are solving a linear program in which

$$0 \leq x_1 \leq 10, 0 \leq x_2 \leq 20, \text{ and } 0 \leq x_3 \leq 30.$$

What is the minimum value of  $M$  under which the following constraint is guaranteed to be redundant?

$$x_1 - 2x_2 + 3x_3 \leq M + 5$$

☐ 55☒ 95 ☐ 105☐ 135**SOLUTION**

95 because

- $x_1 \leq 10$
- $-2x_2 \leq 0$
- $3x_3 \leq 90$
- $M + 5 = 100$

*You have used 1 of 2 submissions*

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