

MITx: 15.053x Optimization Methods in Business Analytics

Heli

Bookmarks

- ► General Information Fixe
- ▶ Week 2

Week 1

- Week 3
- ▼ Week 4

Lecture

Lecture questions due Oct 04, 2016 at 19:30 IST

Ø.

Recitation

Problem Set 4

Homework 4 due Oct 04, 2016 at 19:30 IST

Week 4 > Lecture > Fixed Charge Problems Exercise

■ Bookmark

Fixed Charge Problems Exercise

(1/1 point)

Consider the DTC problem in which S shields and K slingshot kits are produced, and suppose the fixed costs for making these are 10 and 5, respectively. Recall that the original objective was 3S+5K, with demands of 30 and 40 for shields and slingshot kits, respectively. Let w_1, w_2 be binary variables equal such that

- $w_1 = 1$ if there is a setup for shields
- $w_1 = 0$ otherwise no setup for shields
- $w_2 = 1$ if there is a setup for slingshot kits
- $w_2 = 0$ otherwise no setup for slingshot kits

Determine the new objective and constraints necessary for modeling the fixed charge

$$lacksquare$$
 MAX y_1+y_2 \checkmark

$$y_1 = -10w_1 + 3S$$
 \checkmark $0 \le S \le 30w_1$

$$y_2 = -5w_2 + 5K \quad \checkmark$$

$$0 \le K \le 40w_2$$

- lacksquare MIN y_1-y_2

- lacksquare MIN y_1+y_2
- $y_2 = 5w_2 + 5K \\ 0 \le K \le 100w_2$



SOLUTION

ullet MAX y_1+y_2

$$y_1 = -10w_1 + 3S$$

$$0 \le S \le 30w_1$$

•
$$y_2 = -5w_2 + 5K$$

 $0 \le K \le 40w_2$

You have used 1 of 3 submissions

© All Rights Reserved



© 2016 edX Inc. All rights reserved except where noted. EdX, Open edX and the edX and Open EdX logos are registered trademarks or trademarks of edX Inc.

















