Exam: Module 8 Quiz
Submitted: 10/03/2022 08:19:37 PM
Student: moises marin martinez
Attempt: 1

Score
Your score on this attempt: 3.000 out of a possible 5 (60.00%)
Graded Score: 3 out of a possible 5 (60.00%)
Completion Time: 40 minutes 3 seconds

Question 1:
You are creating a LP model that seeks to optimize the amount of money you invest in 6 different mutual funds. The mutual funds and their corresponding risk rating (on a scale of 1-10, with 10 being the most risky) are as follows:

Growth1 - 4, Growth2 - 7, Balanced - 2, SmallCap - 9, LargeCap - 6, International - 8.

(Abbreviations for the funds: GW1, GW2, BL, SC, LC, IT)

You have a total amount of $100,000 that you can invest, but your model does not have to invest all $100,000.

A constraint for your model needs to insure that the weighted average risk of your invested funds cannot exceed 5. Which choice below is the only accurate representation of that requirement for use in an LP model?

Type: Multiple Choice

Points Awarded: 0.000/1.000

User Answer(s):

(4GW1 + 7GW2 + 2BL + 9SC + 6LC + 8IT)/(GW1 + GW2 + BL + SC + LC + IT) <= 5.

Correct Answer(s) :

4GW1 + 7GW2 + 2BL + 9SC + 6LC + 8IT >= 5

(4GW1 + 7GW2 + 2BL + 9SC + 6LC + 8IT)/(GW1 + GW2 + BL + SC + LC + IT) <= 5.

-1GW1 + 2GW2 - 3BL + 4SC + 1LC + 3IT <= 0 (correct)

4GW1 + 7GW2 + 2BL + 9SC + 6LC + 8IT <= 500,000

Question 2:
You are creating a LP model that seeks to optimize the amount of money you invest in 6 different mutual funds. The mutual funds and their corresponding risk rating (on a scale of 1-10, with 10 being the most risky) are as follows:

Growth1 - 4, Growth2 - 7, Balanced - 2, SmallCap - 9, LargeCap - 6, International - 8.

(Abbreviations for the funds: GW1, GW2, BL, SC, LC, IT)

You have a total amount of $100,000 that you can invest, but your model does not have to invest all $100,000.

Your model also needs to make sure that at least 25% of the total amount invested is in the two growth funds (combined). Which choice below is the only accurate representation of that requirement for use in an LP model?

Type: Multiple Choice

Points Awarded: 0.000/1.000

User Answer(s):

(GW1 + GW2)/ (GW1 + GW2 + BL + SC + LC + IT) >= .25

Correct Answer(s) :

GW1 + GW2 >= 25,000

(GW1 + GW2)/ (GW1 + GW2 + BL + SC + LC + IT) >= .25

.25GW1 + .25GW2 +.75BL +.75SC + .75LC + .75IT >= 0

GW1 + GW2 >= .25 * (GW1 + GW2 + BL + SC + LC + IT) (correct)

Question 3:
How many changing cells would you need in your LP model if the following situation was modeled?

"... find the optimal way to plant wheat, corn, and beans (in acres) at three different farms. Each farm can be planted in any combination of the crops.

Type: Multiple Choice

Points Awarded: 1.000/1.000

User Answer(s):

9

Correct Answer(s) :

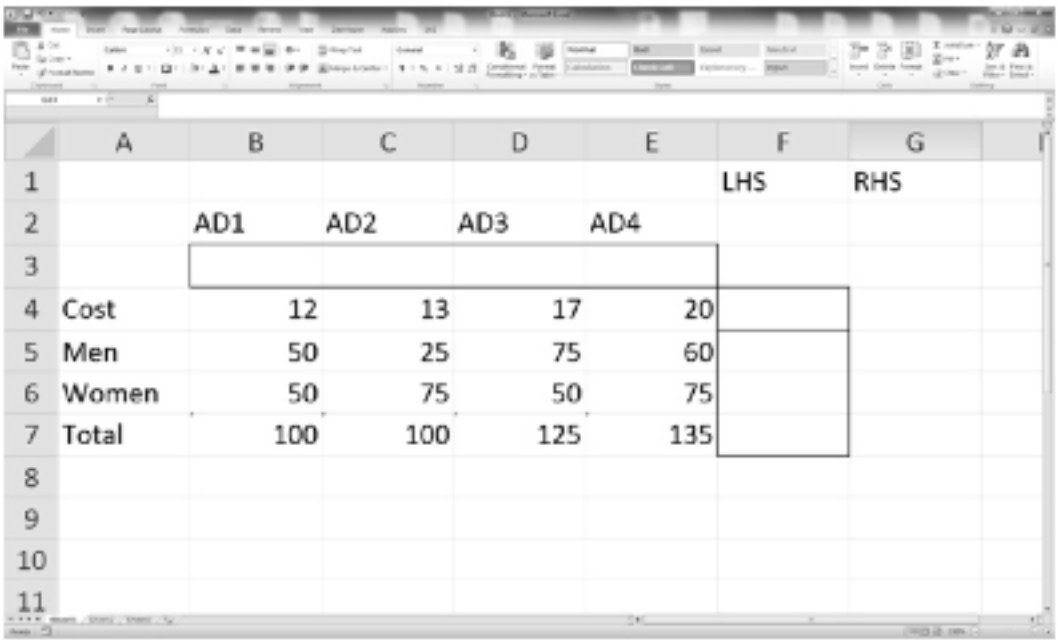
5

6

9 (correct)

12

Question 4:



	A	B	C	D	E	F	G
1						LHS	RHS
2		AD1	AD2	AD3	AD4		
3							
4	Cost	12	13	17	20		
5	Men	50	25	75	60		
6	Women	50	75	50	75		
7	Total	100	100	125	135		
8							
9							
10							
11							

The above spreadsheet depicts the starting point for an LP model that is determining the optimal number of ads to create (AD1, AD2, AD3, AD4) that reach a certain amount of possible customers (Total, made up of Women and Men).

Using EXCEL formulas, which of the following selection is the only correct representation of the following constraint: Men must make up no more than 40% of the total people reached.

Type: Multiple Choice

Points Awarded: 1.000/1.000

User Answer(s):

LHS: SUMPRODUCT(B3:E3,B5:E5) <= RHS: .4* SUMPRODUCT(B3:E3,B7:E7)

Correct Answer(s) :

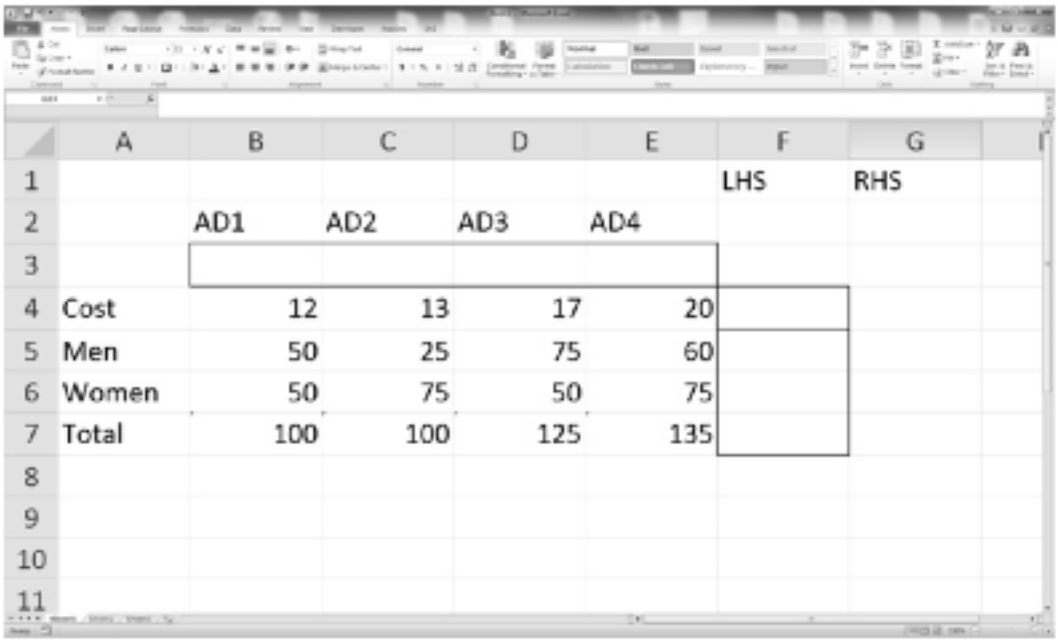
LHS: SUM (B5:E5) <= RHS: .4* SUM(B7:E7)

LHS: SUMPRODUCT(B3:E3,B5:E5) + SUMPRODUCT(B3:E3,B6:E6) <= RHS: .4* SUMPRODUCT(B3:E3,B7:E7)

LHS: SUMPRODUCT(B3:E3,B5:E5) - SUMPRODUCT(B3:E3,B6:E6) <= RHS: .4* SUMPRODUCT(B3:E3,B7:E7)

LHS: SUMPRODUCT(B3:E3,B5:E5) <= RHS: .4* SUMPRODUCT(B3:E3,B7:E7) (correct)

Question 5:



	A	B	C	D	E	F	G
1						LHS	RHS
2		AD1	AD2	AD3	AD4		
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9							
10							
11							

The above spreadsheet depicts the starting point for an LP model that is determining the optimal number of ads to create (AD1, AD2, AD3, AD4) that reach a certain amount of possible customers (Total, made up of Women and Men).

Using EXCEL formulas, identify the one constraint that does NOT implement the requirement: Total number of people reached must be at least 100,000.

Type: Multiple Choice

Points Awarded: 1.000/1.000

User Answer(s):

LHS: SUMPRODUCT(B3:E3,B5:E5) - SUMPRODUCT(B3:E3,B6:E6) >= 100,000

Correct Answer(s) :

LHS: SUMPRODUCT(B3:E3,B5:E5) - SUMPRODUCT(B3:E3,B6:E6) >= 100,000 (correct)

LHS: SUMPRODUCT(B3:E3,B7:E7) >= 100,000

LHS: SUMPRODUCT(B3:E3,B5:E5) + SUMPRODUCT(B3:E3,B6:E6) - 100,000 >= 0

LHS: B3*B7 + C3*C7 + D3*D7 + E3*E7 >= 100,000