SUBMIT: M1 In-Video Quiz

Due Oct 26 at 8am　　　　**Points** 2.5　　　　**Questions** 10　　　　**Time Limit** None
Allowed Attempts Unlimited

Instructions

Directions:

Simply answer the 10 questions associated with the following videos (the SAME questions within the video), and you'll be awarded the participation credit for Week 1.

Good luck and many thanks to the students who alerted us about the Gradebook problem with the internal video quizzes!

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Take the Quiz Again

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Attempt History

	Attempt	Time	Score
LATEST	**Attempt 1**	14 minutes	1.75 out of 2.5

⏱ Correct answers will be available on Oct 27 at 8:30am.

Score for this attempt: **1.75** out of 2.5
Submitted Oct 22 at 7:59pm
This attempt took 14 minutes.

Question 1	0.25 / 0.25 pts

Use the model provided in the spreadsheet to find the lowest-cost McDonald's meal plan that satisfies the daily nutrition requirement.

The cost of the meal plan is:

○ $7.14

◉ $9.03

○ More than $10

○ $0

Incorrect

Question 2   0 / 0.25 pts

Which of the following statement is true about descriptive models?

○

A descriptive models describes thecausal relationship between various factors in a model.

◉

A descriptive models prescribes the best action plan for the decision maker.

Question 3   0.25 / 0.25 pts

An optimization model can be obtained by building upon an existing descriptive model and specify the decision variables, objective, and constraints.

◉ True

○ False

Question 4
0.25 / 0.25 pts

The three critical components in an optimization model are:

○ Decision variables, objective, and financial issues

◉ Decision variables, objective, and constraints

○ Decision variables and multiple objectives of the problem

Incorrect

Question 5
0 / 0.25 pts

Linear program requires all expressions in the objective function and all constraints to be linear functions of decision variables.

○ True

◉ False

Question 6
0.25 / 0.25 pts

Suppose x1 and x2 are the decision variables. The following expression is a linear function of x1 and x2: $x1/(x1+x2) \leq 0.4$

○ True

◉ False

Question 7

0.25 / 0.25 pts

Setup a descriptive model for the McDonald's problem in the "McDonald's (Empty)" sheet. That is, fill parameters in Cells B7:I7, B10:I13; enter formulae in Cell J7, Cells J10:J13.

What is total cost of the following meal plan:

$x1=2$, $x2=1$, $x3=1$, $x4=1$, $x5=0$, $x6=2$, $x7=0$, $x8=1$.

○ $9.03

○ $10.46

○ $12.74

◉ $11.54

Question 8

0.25 / 0.25 pts

Configure "Solver" for the descriptive model you built in the previous quiz to obtain an optimization model. That is, (1) specify the objective cell, (2) specify the changing variables, (3) add constraints according to the instructions (including the integer constraints).

Now change the "maximumcaloriesallowed" from 2000 to 1800. Run the solver, what is the new optimal cost for this updated problem?

○ $8.05

○ $9.03

◉ $10.29

Incorrect

Question 9

0 / 0.25 pts

Setup a descriptive model for the McDonald's problem in the "McDonald's (Alternative Empty)" sheet. That is, enter formulae in Cell D14:E14, CellsI14:J14, and Cell B18.

What if McDonald's adjusted price for Big Mac from $0.69 to $0.79? After updating the price data, optimize the updated problem. Is the new optimal meal plan the same as the original optimal solution?

◉ The optimal plan is the same as as the original one.

◯ The optimal plan is different from the original one.

Question 10

0.25 / 0.25 pts

How many decision variables do we need to formulate the blending problem:

◯ 1

◯ 2

◯ 6

◯ 3

◯ 5

○ 4

Quiz Score: **1.75** out of 2.5