1
point

1.

This question relates to the Data Plan Example covered in Sessions 1 and 2. The "old plan" refers to the "Family Share" plan, and the "new plan" refers to the "Superior Share" plan. You can answer this question without using Excel. You should involve Excel only if you cannot answer this questions otherwise.

Suppose that in a particular month the consultant's data usage turned out to be 24GB. Let P_{FS} be the amount, in $\$$, she will have to pay for this data usage under the old plan and P_{SS} be the amount, in $\$$, she will have to pay for this data usage under the new plan. What is the value of the difference $P_{SS} - P_{FS}$?

- ○ 220

- ○ 240

- ○ 0

- ○ -240

- ● -20

- ○ -220

- ○ 20

1
point

2.

This question relates to the Data Plan Example covered in Sessions 1 and 2. The "old plan" refers to the "Family Share" plan, and the "new plan" refers to the "Superior Share" plan. You can answer this question without using Excel. You should involve Excel only if you cannot answer this questions otherwise.

Suppose that in a particular month the consultant's data usage is U, in GB. Let P_{FS} be the amount, in $, she will have to pay for this data usage under the old plan and P_{SS} be the amount, in $, she will have to pay for this data usage under the new plan. For which values of U will she pay more under the old plan than under the new plan, i.e., for which values of U the difference $P_{SS} - P_{FS}$ is negative?

○   For no value of U. In other words, she will always pay more under the new plan.

○   For any U below 16

○   For any U

◉   For any U above 16 but below 28

○   For any U above 28

| 1 |
| point |

3.

This question relates to the Data Plan Example covered in Sessions 1 and 2. The "old plan" refers to the "Family Share" plan, and the "new plan" refers to the "Superior Share" plan. You can answer this question without using Excel. You should involve Excel only if you cannot answer this questions otherwise.

In one of the past months, our consultant had to pay $260 for her data usage under the old plan. How much, in $, would she have to pay for the same amount of monthly data usage under the new plan?

○   210

○   240

○   230

○   200

1
point

4.

This question relates to the Data Plan Example covered in Sessions 1 and 2. The "old plan" refers to the "Family Share" plan, and the "new plan" refers to the "Superior Share" plan. You can answer this question without using Excel. You should involve Excel only if you cannot answer this questions otherwise.

Suppose that our consultant subscribes to the new data plan and, in a particular month, she has to pay $310 for her data usage under this plan. How much data, in GB, does she use in that month?

○ 50

◉ 30

○ 20

○ 40

○ 10

1
point

5.

This question relates to the Data Plan Example covered in Sessions 1 and 2. The "old plan" refers to the "Family Share" plan, and the "new plan" refers to the "Superior Share" plan. You can answer this question without using Excel. You should involve Excel only if you cannot answer this questions otherwise.

John Datum is another customer of the same wireless company. Just like our consultant, John is trying to compare the old plan and the new plan. Having looked at his past monthly data usage values, John, unlike our consultant, has decided to use a simple scenario approach to model his future data usage. In particular, John estimates that his monthly data usage Ū (in GB) can take one of three values, $\bar{U}_1 = 15$, $\bar{U}_2 = 21$ and $\bar{U}_3 = 24$, each value being equally likely (i.e., each having a probability of 1/3 associated with it). What is the expected value of John's monthly payments, in $, under the old plan?

- ⦿ 200

- ◯ 180

- ◯ 225

- ◯ 150

- ◯ 195

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1 point

6.

This question relates to the Data Plan Example covered in Sessions 1 and 2. The "old plan" refers to the "Family Share" plan, and the "new plan" refers to the "Superior Share" plan. You can answer this question without using Excel. You should involve Excel only if you cannot answer this questions otherwise.

Referring to the scenario in Question 5, what is the expected value of John's monthly payments, in $, under the new plan?

- ◯ 197.5

- ◯ 160

- ⦿ 185

- ◯ 167.5

- ◯

Risk and Evaluation Quiz

Quiz, 10 questions

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7.

You can answer this question using only the information provided below. You can also use the file DataPlan10.xlsx we created in Session 2 to answer the question.

Suppose that, in evaluating the old and the new data plan for our consultant, we set-up a simulation with n=5 simulation runs and use Excel to generate the following random instances of her data usage, in GB: 14.6, 27.4, 19.6, 30.8 and 25.6. Calculate the corresponding 5 values of the monthly payments under the old plan. What is the sample mean, in $, of these payment values? Choose the closest answer from the choices below.

- ○ 263
- ○ 240
- ○ 231
- ● 236
- ○ 210

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8.

You can answer this question using only the information provided below. You can also use the file DataPlan10.xlsx we created in Session 2 to answer the question.

Calculate the 5 values of the monthly payments under the new plan corresponding to the data usage values shown in Q7. What is the sample mean, in $, for these payment values? Choose the closest answer from the choices below.

- ○

210

← **Risk and Evaluation Quiz**

231   Quiz, 10 questions

263

236

240

○ 210

◉ 231

○ 263

○ 236

○ 240

| 1 |
| point |

9.

You can answer this question using only the information provided below. You can also use the file DataPlan10.xlsx we created in Session 2 to answer the question.

Suppose that we set-up a simulation with n=5 simulation runs and used a different random seed to generate another 5 random instances of our consultant family's data usage, in GB: 14.0, 21.7, 26.1, 22.1, 28.6. Calculate the corresponding 5 values of the monthly payments under the old plan. What is the sample standard deviation, in $, of these payment values? Choose the closest answer from the choices below.

◉ 55.5

○ 75.5

○ 95.5

○ 85.5

○ 65.5

| 1 |
| point |

Risk and Evaluation Quiz

You can answer this question using only the information provided below. You can also use the file DataPlan10.xlsx we created in Session 2 to answer the question.

Calculate the 5 values of the monthly payments under the new plan corresponding to the data usage values shown in Q9. What is the sample standard deviation, in $, for these payment values? Choose the closest answer from the choices below.

- ○ 73
- ○ 33
- ○ 43
- ● 53
- ○ 63

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