

For this project, you will use inequalities and equations to help the principal choose the best company to use for a field trip.

1. Each bus company charges separately for transportation and food. **Each company also charges a fixed service fee of $35.**
   1. Define variables for food, transportation, and total cost.

Create an equation to represent the total cost of the field trip.

$35 is the fixed service fee

\_\_\_\_\_ represents the total cost for food

\_\_\_\_ represents the total cost for transportation

\_\_\_\_ represents the total cost

Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. The class has $400 to pay for the field trip. Use your variables from **part a** and the fixed service fee to write an inequality to represent the budget and cost of the field trip.

Inequality: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The table shows the cost structure for transportation and food from four companies.

The cost is based on the number of students attending the fieldtrip.

|  |  |  |  |
| --- | --- | --- | --- |
| **Cost Structure Table** | | |  |
| **Company** | **Cost of transportation** | **Cost of food** | **Service Fee** |
| Affordable Bus | $7 per student | $10 per student | $35 |
| Mellow Yellow | $9 each for the first 20 students  and  $5 for each additional student | $7 per student | $35 |
| Busy Bus | $12 each for the first 10 students  and  $7 for each additional student | $5 per student | $35 |
| Cozy Seats | $8 per student | $7 per student | $35 |

2. Janet’s class has 18 students. She says the Affordable Bus company would cost the **most** based on the information in the table.

Do you agree or disagree with Janet? Justify your answer.

3. Brian’s class has 28 students. He claims the Mellow Yellow company would cost a total of $483. Do you agree or disagree with Brian’s claim? Justify your decision.

4. Analyze the **Cost Structure Table**. Identify which company(s) would be best based on an unknown number of students attending the field trip. Remember the cost must be less than or equal to $400.

Show all work and calculations within this space.

**Conclusion:** Which company(s) is the best choice given an unknown number of students? Support your decision with mathematical reasoning.

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