For your birthday, you want to take a group of friends to an indoor trampoline center. There are two trampoline parks available on your date.

Pricing Information:

- Sky High: $50 for up to 10 people and $5 per person after that.
- Jump it Up: $70 for a party set up fee and $2 per person.

1. Which trampoline center would you choose for the following number of friends. Show all work and give justification for your solutions, including any representations you used.
   a. 15 friends  
      Sky High $75  
      Jump it Up $100
   b. 20 friends  
      Sky High $70  
      Jump it Up $110
   c. 25 friends  
      Sky High $125  
      Jump it Up $120

2. What is the minimum number of friends for which Jump it Up is the less expensive choice. Show all work and give justification for your solutions, including any representations you used.

   \[
   \frac{50}{\text{Ju}} + \frac{2x}{11} < \frac{50}{\text{Ju}} + \frac{10}{120} \\
   \frac{50}{\text{Ju}} + \frac{5x}{118} < \frac{10}{48} + \frac{5x}{118}
   \]

3. Based on your answer in part 2, use the pricing information given to model algebraically the situation where Jump it Up is less expensive than Sky High.

   \[70 + 2x < 50 + 5x - 10\]
For your birthday, you want to take a group of friends to an indoor trampoline center. There are two trampoline parks available on your date.

Pricing Information:

- Sky High: $50 for up to 10 people and $5 per person after that. 
  \[ S_0 + S(p) \]
- Jump it Up: $70 for a party set up fee and $2 per person.
  \[ J_0 + 2(p) \]

1. Which trampoline center would you choose for the following number of friends. Show all work and give justification for your solutions, including any representations you used.
   
   a. 15 friends
   \[ S_0 + S(15) = 75 \]
   \[ J_0 + 2(15) = 100 \]
   
   b. 20 friends
   \[ S_0 + S(16) = 100 \]
   \[ J_0 + 2(20) = 110 \]
   
   c. 25 friends
   \[ S_0 + S(15) = 125 \]
   \[ J_0 + 2(25) = 120 \]

2. What is the minimum number of friends for which Jump it Up is the less expensive choice. Show all work and give justification for your solutions, including any representations you used.

   \[ S_0 + S(14) = 70 \]
   \[ J_0 + 2(24) = 118 \]

3. Based on your answer in part 2, use the pricing information given to model algebraically the situation where Jump it Up is less expensive than Sky High.

   \[ J_0 + 2(p) < S_0 + S(p-10) \]
For your birthday, you want to take a group of friends to an indoor trampoline center. There are two trampoline parks available on your date.

Pricing Information:

Sky High: $50 for up to 10 people and $5 per person after that.

Jump it Up: $70 for a party set up fee and $2 per person.

1. Which trampoline center would you choose for the following number of friends. Show all work and give justification for your solutions, including any representations you used.
   
   a. 15 friends
   
   Sky High: $50 + 15 * 5 = 75
   
   Jump it Up: $70 + 30 = 100
   
   b. 20 friends
   
   Sky High: $50 + 20 * 5 = 100
   
   Jump it Up: $70 + 40 = 110
   
   c. 25 friends
   
   Sky High: $50 + 25 * 5 = 175
   
   Jump it Up: $70 + 50 = 120

2. What is the minimum number of friends for which Jump it Up is the less expensive choice. Show all work and give justification for your solutions, including any representations you used.

22 friends, because Sky High becomes more expensive and Jump it Up becomes less expensive.

3. Based on your answer in part 2, use the pricing information given to model algebraically the situation where Jump it Up is less expensive than Sky High.

It's a $5 difference
For your birthday, you want to take a group of friends to an indoor trampoline center. There are two trampoline parks available on your date.

Pricing Information:

Sky High: $50 for up to 10 people and $5 per person after that. 

Jump it Up: $70 for a party set up fee and $2 per person.

1. Which trampoline center would you choose for the following number of friends. Show all work and give justification for your solutions, including any representations you used.
   - 15 friends
     
   - 20 friends
     
   - 25 friends

2. What is the minimum number of friends for which Jump it Up is the less expensive choice. Show all work and give justification for your solutions, including any representations you used.

3. Based on your answer in part 2, use the pricing information given to model algebraically the situation where Jump it Up is less expensive than Sky High.
For your birthday, you want to take a group of friends to an indoor trampoline center. There are two trampoline parks available on your date.

Pricing Information:
Sky High: $50 for up to 10 people and $5 per person after that.
Jump it Up: $70 for a party set up fee and $2 per person.

1. Which trampoline center would you choose for the following number of friends. Show all work and give justification for your solutions, including any representations you used.
   
a. 15 friends
   - Sky High: $50 + 10 \times 5 = 75$
   - Jump it Up: $70 + 15 \times 2 = 100$

   b. 20 friends
   - Sky High: $50 + 10 \times 5 = 100$
   - Jump it Up: $70 + 20 \times 2 = 110$

   c. 25 friends
   - Sky High: $50 + 15 \times 5 = 125$
   - Jump it Up: $70 + 25 \times 2 = 130$

2. What is the minimum number of friends for which Jump it Up is the less expensive choice. Show all work and give justification for your solutions, including any representations you used.

   - Jump it Up
     
     \[
     (21) \quad 70 + 21 \cdot 2 = 112
     \]
     
     \[
     (22) \quad 70 + 22 \cdot 2 = 114
     \]
     
     \[
     (23) \quad 70 + 23 \cdot 2 = 116
     \]
     
     \[
     (24) \quad 70 + 24 \cdot 2 = 118
     \]

   - Sky High
     
     \[
     50 + 5 \times 5 = 105
     \]
     
     \[
     50 + 6 \times 5 = 110
     \]
     
     \[
     50 + 7 \times 5 = 115
     \]
     
     \[
     50 + 8 \times 5 = 120
     \]

3. Based on your answer in part 2, use the pricing information given to model algebraically the situation where Jump it Up is less expensive than Sky High.

   - Sky High
     
     \[
     50 + 5(J - 10)
     \]
Trampoline Party Anchor Papers

STUDENT F

Trampoline Party

For your birthday, you want to take a group of friends to an indoor trampoline center. There are two trampoline parks available on your date.

Pricing Information:

Sky High: $50 for up to 10 people and $5 per person after that.

Jump It Up: $70 for a party set up fee and $2 per person.

1. Which trampoline center would you choose for the following number of friends. Show all work and give justification for your solutions, including any representations you used.

   a. 15 friends
      
      Sky High: \(50 + 5 + 5 + 5 + 5 + 5 = 60\) then add \(5\) more friends.
      
      Jump It Up: \(70 + 2 \times 10 = 70 + 20 = 90\)
      
      Sky High is cheaper.

   b. 20 friends
      
      Sky High: \(50 + 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 = 100\) addition.
      
      Jump It Up: \(70 + 2 \times 10 = 70 + 20 = 90\)
      
      Jump It Up is cheaper.

   c. 25 friends
      
      Sky High: \(50 + 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 = 120\) addition.
      
      Jump It Up: \(70 + 2 \times 10 = 70 + 20 = 90\)
      
      Jump It Up is cheaper.

2. What is the minimum number of friends for which Jump it Up is the less expensive choice. Show all work and give justification for your solutions, including any representations you used.

   a. When it came to 24 friends, Jump It Up became less expensive.
      
   b. When it came to 25 friends, Jump It Up became less expensive.

3. Based on your answer in part 2, use the pricing information given to model algebraically the situation where Jump it Up is less expensive than Sky High.

Based off of these two trampoline places, Jump It Up would become the better place to have your friends as long as you have more than 24, less than 25, the better place would be Sky High.

Virginia Department of Education 2019

Algebra I Task