1.2.4 Journal: Algebraic Properties and Expressions   Journal

Algebra I Sem 1   Name:_____

Points Possible: 20   Date:_____

Scenario: The Arcade

Instructions:

- View the video found on page 1 of this journal activity.

- Using the information provided in the video, answer the questions below.

- Show your work for all calculations.

The Bowling/Laser Tag Decision: A group of friends must decide how many games of bowling and laser tag to play. They decide to play at least one game of bowling and at least one game of laser tag. Find the costs of different numbers of games to help Ernest decide how many games to play. Remember, they want to have money left over for snacks.

Make Sense of the Problem

3 points: 1 point for each answer.

What do you know?	
What do you want to find out?	
What kind of answer do you expect?	

Writing Expressions

1. Bowling costs $25 per game. The bowling fans want to play more than 1 game of bowling. Write an expression to help you find the cost of bowling more than 1 game. (**2 points:** 1 point for defining the variable, 1 point for the expression)

- What variable will represent the number of games of bowling? _____

- Use this variable to write an expression for the cost of bowling an unknown number of games. _____

2. Laser tag costs $35 per game. The laser tag fans want to play more than 1 game of laser tag. Write an expression to help you find the cost of playing more than 1 game of laser tag. (**2 points:** 1 point for defining the variable, 1 point for the expression)

- What variable will represent the number of games of laser tag? _____

- Use this variable to write an expression for the cost of playing an unknown number of games of laser tag. _____

3. The bowling fans want to play just 1 game of laser tag and more than 1 game of bowling. Write an expression to find the cost of 1 game of laser tag and an unknown number of games of bowling. (**2 points:** 1 point for each term)

4. The laser tag fans want to play just 1 game of bowling and more than 1 game of laser tag. Write an expression to find the cost of 1 game of bowling and an unknown number of games of laser tag. (**2 points:** 1 point for each term)

Evaluating the Expressions

5. If the bowling fans get their way, and the group plays only 1 game of laser tag, will they have enough money to bowl 5 games? Use your expression from question 3 to calculate the cost of 1 game of laser tag and 5 games of bowling. (**3 points:** 1 point for the answer, 1 point for showing your work, and 1 point for answering the question)

Show your work:

Does the group have enough money to bowl 5 games and play 1 game of laser tag? If so, will they have any money left over to buy snacks? Explain.

6. If the laser tag fans get their way, and the group bowls only 1 game, will they have enough money to play 5 games of laser tag? Use your expression from question 4 to calculate the cost of 1 game of bowling and 5 games of laser tag. (**3 points:** 1 point for the answer, 1 point for showing your work, and 1 point for answering the question)

Show your work:

Does the group have enough money to play 5 games of laser tag and 1 game of bowling? If so, will they have any money left over to buy snacks? Explain.

Taking Time to Reflect

7. If you were in charge of the money, how would you recommend your friends spend it? Explain why you chose the solution you did. Why do you think it's the most fair? (**3 points:** 1 point for stating your recommendation and 2 points for explaining your reasoning)

Show your work: