Lesson 21: If-Then Moves with Integer Cards

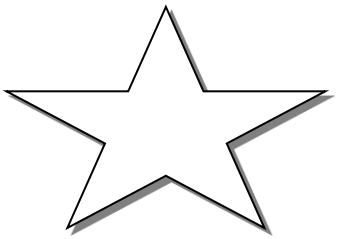
Classwork

Example 1: Integer Game Revisited

Let's investigate what happens if a card is added or removed from a hand of integers.

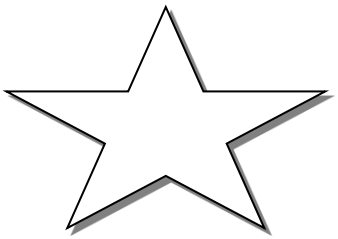
My Cards:

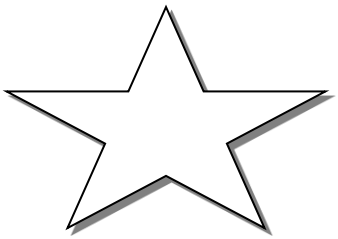
My Score:



Event #1

My New Score:

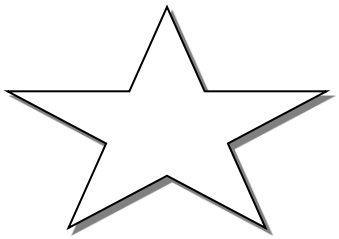


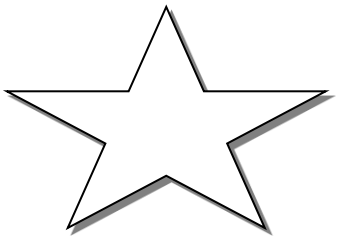


Conclusion:

Event #2

My New Score:

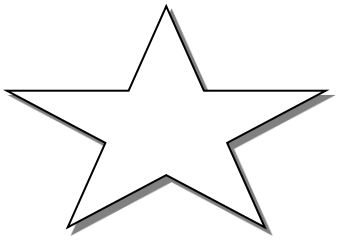




Conclusion:

Event #3

My New Score:



Expression:

Conclusion:

Event #4

Expression:

Conclusion:

Exercises 1–2

1. The table below shows two hands from the Integer Game and a series of changes that occurred to each hand. Part of the table is completed for you. Complete the remaining part of the table, then summarize the results.

	Hand 1	Result	Hand 2	Result
Original	$1 + (-4) + 2$		$0 + 5 + (-6)$	
Add 4	$1 + (-4) + 2 + 4$			
Subtract 1	$1 + (-4) + 2 + 4 - 1$			
Multiply by 3				
Divide by 2				

2. Complete the table below using the multiplication property of equality.

	Original Expression and Result	Equivalent Expression and Result
	$3 + (-5) =$	
Multiply both expressions by -3		
Write a Conclusion using If-Then		

Lesson Summary

- If a number sentence is true, $a = b$, and you add or subtract the same number from both sides of the equation, then the resulting number sentence will be true.
- If a number sentence is true, $a = b$, and you multiply or divide both sides of the equation by the same number, then the resulting number sentence will be true.

Problem Set

1. Evaluate the following numerical expressions

   a. $2 + (-3) + 7$

   b. $-4 - 1$

   c. $-\frac{5}{2} \times 2$

   d. $-10 \div 2 + 3$

   e. $\left(\frac{1}{2}\right)(8) + 2$

   f. $3 + (-4) - 1$

2. Which expressions from Exercise 1 are equal?

3. If 3 is divided to two of the equivalent expressions from Exercise 1, write an if-then statement using the properties of equality.

4. Write an if-then statement if $--$ is multiplied to the following equation: $-1 - 3 = -4$

5. Simplify the expression: $5 + 6 - 5 + 4 + 7 - 3 + 6 - 3$

   Using the expression, write an equation:

   Rewrite the equation if 5 is added to both expressions:

   Write an if-then statement using the properties of equality.