

## Lesson 21: If-Then Moves with Integer Cards

### Classwork

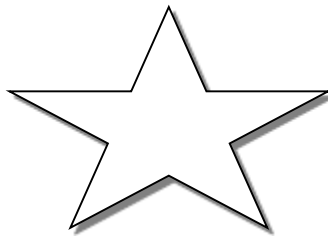
#### Example 1: Integer Game Revisited

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

My Cards:

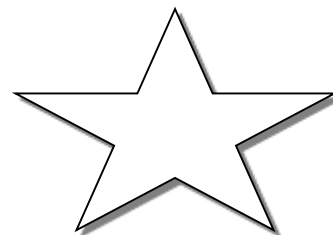
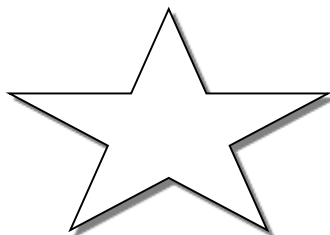


My Score:



#### Event #1

My New Score:

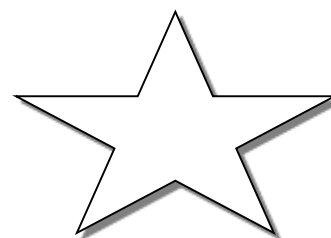
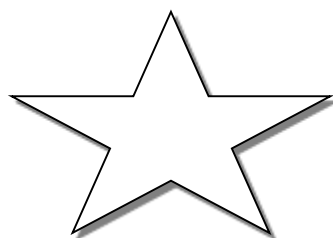


Conclusion:

[Type here]

Event #2

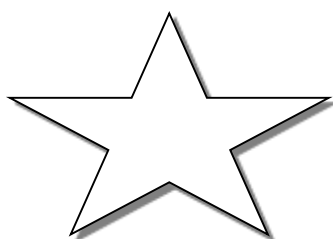
My New Score:



Conclusion:

Event #3

My New Score:



Expression:

Conclusion:

[Type here]

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				

[Type here]

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		

[Type here]

**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.

[Type here]