## Packet 1: Integers Review

Dear Parents/Guardians,

Welcome to MathLinks! This math program consists of 16 cohesive consumable packets for students aligned with the 2010 Common Core State Standards. Each packet will take about two weeks to complete.

Packet 1 is a review of grade 7 integer operations as well as simplifying expressions using order of operations. Students will use two colored counters, visual representations, and patterns to understand the rules of operating with integers. Encourage your student to use the methods below if they struggle with the rules or to help them think more deeply about the concepts.



**p** represents a zero pair. + – also represents a zero pair.

The value of **•••••••** is -1, since there are **two** zero pairs and one blue counter (or -1) by itself.

by the end of the packet, your student should know...

How to add, subtract, multiply and divide integers using multiple representations Lessons 1.1 and 1.2

Understand and use the convention for order of operations Lesson 1.3

## Additional Resources

Resource Guide (RG) Part 1, pages 25-32 (integers), 33-35 (order of operations)

Search YouTube to look up videos for 'math integer operations with chips.' Here is an example: https://youtu.be/CtCl9pWZkXM

Search mathty.com Click on 'basic mathematics' Click on 'whole numbers' Click on 'exponents and order of operations'

## Integer Operations with Counters (Some Examples)

Addition (Think of as adding to)	Subtraction (Think of as removing)
5 + (-6) = -1	2 – (–3) = 5
Place 5 red (+)	Place 2 red (+)
Add 6 blue (-)	Remove 3 blue (-)
Create zero pairs (if you can).	No blue??? Create zero pairs then remove 3 blue.
Remaining counter(s) or symbol(s) is the value.	Remaining counter(s) or symbol(s) is the value.
Multiplication (Adding/Removing Equal Groups)	Division (Splitting into Equal Groups)
$2 \times (-4) = -8$	–15 ÷ 3 = –5
This multiplication expression can mean " <b>place two</b>	This division expression can mean "take –15 and split
groups of -4."	into 3 equal groups."
2 groups of (-4) is (-8).	There are 5 negatives (–5) in each of the three groups.