

**MPM 1D Unit 1 Handout #1**  
**Operations with Integers**

Date:

Name:

**What is an integer?**

- An integer is a positive or negative whole number (including zero).
- An integer is NOT a decimal or fraction.

**Operations with Integers:**

- You can use a number line, integer chips, or the idea of profit and loss to make operations easier. Do not become completely dependent on a calculator.
- Always take a minute to think about whether your answer makes sense!
- Refer to your note from class for examples to guide you through this handout.

**Part 1: Do the Math**

1. Complete each integer operation. Please show how you combined the signs.

a.  $18 + (-9)$

b.  $-4 - (-10)$

c.  $-5 + (-8)$

d.  $48 + (-22)$

e.  $-35 - (-10)$

f.  $9 + (-11)$

g.  $-2 - (-9) + (-4)$

h.  $(-14) + 8 - (-11) - 5 - (-1)$

2. Complete each integer operation. Make sure that the sign of your final answer makes sense.

a.  $(-9) \times (-7)$

b.  $56 \div (-8)$

c.  $(-3) \times (-8)$

d.  $-35 \div (-5)$

e.  $(-121) \div (-11)$

f.  $(-7) \times 14$

3. Evaluate each of the following. Show your work and be sure to work from left to right!!

a.  $-12 \times 5 \div 4 \times (-2)$

b.  $-3 \times (-5) \times 2 \times (-1)$

**Part 2: Explain the Math**

1. If you add a large negative number to a small positive number, what sign do you expect your final answer to have? Explain your thinking and provide an example to support your conclusion.

2. If you multiply or divide two negative numbers, what sign will the answer have? What if you multiply or divide two positive numbers?
3. Create a number line to show  $(-4) + 9$ . Include brief notes that would help a younger student to understand how the number line works.

### Part 3: Apply the Math

1. You borrow \$20 from your brother to go to the movies. When you go to pay him back, he asks to borrow an extra \$10 from you, on top of what you owed him. He then pays you back \$22. How much does he still owe you?
2. A small business lost \$4500 in its first year, lost \$1100 in its second year, and earned \$5200 in its third year. What is their net earnings or loss over this three year period?
3. In golf, par is the suggested score for a golf hole. If you get the ball in the hole in fewer shots, your score is negative, but if it takes you more shots, your score is positive (yes, in golf you WANT to get a negative total!). Use the scorecard below to determine each player's total score for the round. How many shots above or below par were they?

Hole	1	2	3	4	5	6	7	8	9	
Blue	71.4/128	505	165	520	193	395	372	457	338	406
White	M 69.7/124 L 75.1/128	485	140	503	158	365	351	430	317	385
Handicap	9	17	5	13	3	15	1	11	7	
<b>Jim (10)</b>	<b>5</b>	<b>3</b>	<b>6</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>6</b>	
<b>Samantha (17)</b>	<b>7</b>	<b>3</b>	<b>7</b>	<b>4</b>	<b>7</b>	<b>4</b>	<b>6</b>	<b>6</b>	<b>4</b>	
<b>Josh (20)</b>	<b>6</b>	<b>4</b>	<b>8</b>	<b>3</b>	<b>5</b>	<b>5</b>	<b>6</b>	<b>6</b>	<b>6</b>	
Par	5	3	5	3	4	4	4	4	4	