Name: _____ **Date:** _____

Spiraling Lessons: Adding and Subtracting Integers **Holiday Packet**

Adding Integers

1. (-12) + 7 =
2. (-10) + (-7) =
3. (-6) + 12 =
4. (-6) + 12

5. (-8) + (-7) =
6. (-45) + 9 =
7. 30 – (-10) =
8. (-1) + (-46)

Subtracting Integers

1. 2 – (-2) =
2. (-1) – (-3) =
3. (-1) – (-40) =
4. 48 – (-31) =

5. (-8) – (-6) =
6. 11 – (-4) =
7. 6 – (-8) =
8. -11 – (-4) =

Expressions, Adding/Subtracting, and Word Problems with Numbers in Scientific Notation

Vocabulary: Scientific Notations is a number that is expressed as the product of a number greater than or equal to 1 but less than 10, and a power of 10. For example, 5,000,000 written in scientific notation is 5×10^6.

Write in **Standard Notation**.

1) 6.1×10^3

3) 7.25×10^2

5) 3.18×10^6

7) 8.80×10^4

9) Changing the scientific notation expressions 1.5×10^3 and 2.1×10^{-2} to standard form.

Write in **Scientific Notation.**

2) 62,500

4) 8 hundred

6) 6 million

8) 53 thousand

10) $0.0921 \times 10^N = 9.21$

Scientific Real world Applications:

Solve.

1) The biggest iceberg ever seen split off the Ross Ice Shelf in Antarctica during the spring of 2000. It was estimated to weigh about 4,000,000,000,000 tons. Write its weight in scientific notation.	**2)** The average distance between Earth and the Sun is 92,960,000 miles. Write this distance in scientific notation.
3) In 2007, the wealthiest man in the world - assets were estimated at about $58,500,000,000. Write this value in scientific notation.	**4)** Willie Mays hit 6.6×10^2 career home runs. Write 6.6×10^2 in standard notation.
5) The mass of Earth is about 6,580,000,000,000,000,000,000 tons. There are 2,000 pounds in one ton. Write the mass of earth in pounds in scientific notation.	
6) Suppose you save $100 each month beginning now, but stuff it in your mattress so that it doesn't earn interest. (a) How many years would it take to save 1 million dollars? (b) How many years would it take to save 1 billion dollars?	

Lesson 3: Expressions and Exponents **Multiply and Divide Monomials (Laws of Exponents)**

1) Solve $\frac{16t^4}{8t}$	2) Solve $\frac{(5.6\times10^{12})}{(10.5\times10^{5})}$
Solve 1: $\frac{(2\times10^{-3})(3\times10^{7})}{(2\times10^{-8})}$	**Solve 2:** $\frac{(6\times10^{4})(2\times10^{7})}{(4\times10^{10})}$
Solve 3: $\frac{(7\times10^{-12})(1\times10^{6})}{(14\times10^{-8})}$	**Solve 4:** $\frac{(5\times10^{-9})(6\times10^{7})}{(3\times10^{5})}$
Solve 5: $\frac{(8\times10^{5})(4\times10^{-10})}{(8\times10^{9})}$	**Solve 6:** $\frac{(5\times10^{-17})(4\times10^{-10})}{(2\times10^{5})}$

Solve 7: $\frac{(9\times10^{-7})(4\times10^{14})}{(6\times10^{4})}$	**Solve 8:** $\frac{(5.6\times10^{-7})(3.6\times10^{14})}{(5\times10^{4})}$
Solve 9: $\frac{(6.4\times10^{5})(2.9\times10^{12})}{(9.8\times10^{5})}$	**Solve 10:** $\frac{(4.8\times10^{8})(3.9\times10^{4})}{(7\times10^{3})}$