***Integers***

**An integer** is a positive or negative whole number.

**A positive number** is a number greater than zero.

**A negative number** is a number less than zero.

This number line shows integers.

**Negative integers** **Positive integers**

**0**

**1**

**2**

**3**

**4**

**-1**

**-2**

**-3**

**-4**

**5**

**6**

**-5**

**-6**

**Zero is neither positive nor negative**

**Sample Problem 1**: **Write an integer to represent each situation.**

|  |  |  |
| --- | --- | --- |
| **a.** | 22 below sea level |  |
| **b.** | a bonus of $150 |  |
| **c.** | 7 points lost |  |

**Sample Problem 2**: **Graph each integer or set of integers on a number line.**

|  |  |  |
| --- | --- | --- |
| **a.** |  | **0**  **1**  **2**  **3**  **4**  **-1**  **-2**  **-3**  **-4**  **5**  **6**  **-5**  **-6** |
| **b.** |  | **0**  **1**  **2**  **3**  **4**  **-1**  **-2**  **-3**  **-4**  **5**  **6**  **-5**  **-6** |
| **c.** |  | **0**  **1**  **2**  **3**  **4**  **-1**  **-2**  **-3**  **-4**  **5**  **6**  **-5**  **-6** |

Every integer has an opposite integer. A number and its opposite are the same distance from 0.

**Sample Problem 3**: **Find the opposite of each integer.**

|  |  |  |
| --- | --- | --- |
| **a.** |  |  |
| **b.** |  |  |
| **c.** |  |  |

**Sample Problem 4**: **Graph each integer and its opposite on a number line.**

|  |  |  |
| --- | --- | --- |
| **a.** |  | **0**  **1**  **2**  **3**  **4**  **-1**  **-2**  **-3**  **-4**  **5**  **6**  **-5**  **-6** |
| **b.** |  | **0**  **1**  **2**  **3**  **4**  **-1**  **-2**  **-3**  **-4**  **5**  **6**  **-5**  **-6** |
| **c.** |  | **0**  **1**  **2**  **3**  **4**  **-1**  **-2**  **-3**  **-4**  **5**  **6**  **-5**  **-6** |

**Sample Problem 5:** **Compare the following integers.** **Write**

|  |  |  |
| --- | --- | --- |
| **a.** |  |  |
| **b.** |  |  |

**The absolute value of a number** is the distance between 0 and the number on a number line.

Remember that distance is always a positive quantity (or zero).

Two vertical bars are used to represent absolute value. The symbol for absolute value of is .

**Sample Problem 6**: **Find the absolute value of the following numbers.**

|  |  |  |
| --- | --- | --- |
| **a.** |  |  |
| **b.** |  |  |
| **c.** |  |  |

**Sample Problem 7**: **Order the values from least to greatest.**

|  |  |  |
| --- | --- | --- |
| **a.** |  |  |
| **b.** |  |  |

**Sample Problem 8**: **Evaluate each of the following expressions.**

|  |  |  |
| --- | --- | --- |
| **a.** |  |  |
| **b.** |  |  |
| **c.** |  |  |