Module 3   **Integers**
Lesson 2   **Adding Integers**

Set 1

1   When will the sum of two integers be positive?

2   When will the sum of two integers be negative?

3   When will the sum of two integers be zero?

Set 2

1   When adding two integers with the same sign, explain why the absolute values of the integers are added and the sum is given the same sign as the integers.

2   When adding two integers with different signs, explain why the absolute values of the integers are subtracted and the sum is given the same sign as the integer with the greater absolute value.

Possible Answers

Set 1

1. The sum of two positive integers is positive. If a positive integer and a negative integer are added, and the absolute value of the positive integer is greater than the absolute value of the negative integer, the sum is positive.

2. The sum of two negative integers is negative. If a positive integer and a negative integer are added, and the absolute value of the negative integer is greater than the absolute value of the positive integer, the sum is negative.

3. The sum of opposites, such as 2 and -2, is zero.

Set 2

1. Using counters, when adding integers with the same sign, the counters all have the same color, so the sum will have the same sign as the integers. The absolute value of an integer is the number of counters it takes to represent the integer. Since all the counters are the same color, the sum is the total number of the counters.

2. Using counters, the absolute value of an integer is the number of counters it takes to represent the integer. In addition, zero pairs are formed by taking away, or subtracting, the number of counters representing the number with the smaller absolute value from the number of counters representing the number with the larger absolute value.