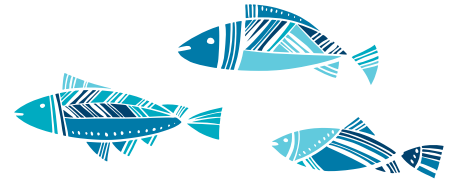


# Integer Operations: Always, Sometimes, Never



**Directions:** Determine whether each statement is always true, sometimes true, or never true. Then, circle your answer and explain your thinking. Try to come up with examples that are true and examples that are false to help you!

1. The product of a negative integer and a positive integer is a negative integer.

always true     sometimes true     never true

The product will always be negative when multiplying two integers with different signs.

2. The difference of two positive integers is a positive integer.

always true     sometimes true    never true

The difference will be positive when the first integer is larger, like  $10 - 8 = 2$ . It will be negative when the second integer is larger, like  $2 - 5 = -3$ .

3. The quotient of two negative integers is a negative integer.

always true    sometimes true     never true

The quotient will always be positive when dividing two integers with the same sign. It will never be negative.

4. The sum of a positive integer and a negative integer is a positive integer.

always true     sometimes true    never true

The sum will have the same sign as the integer with the larger absolute value. It may be positive, like  $3 + (-1) = 2$ , or negative, like  $4 + (-9) = -5$ .

5. The difference of two negative integers is a positive integer.

always true     sometimes true    never true

The difference will be positive when the second integer has a larger absolute value, like  $-2 - (-5) = 3$ . It will be negative when the first integer has a larger absolute value, like  $-10 - (-8) = -2$ .

6. The quotient of a positive integer and a negative integer is a positive integer.

always true    sometimes true     never true

The quotient will always be negative when dividing two integers with different signs. It will never be positive.

7. The sum of an integer and its opposite is zero.

always true     sometimes true     never true

The sum of any integer and its opposite will always equal 0, like  $8 + (-8) = 0$  or  $-11 + 11 = 0$ .

8. The product of three negative integers is a negative integer.

always true     sometimes true     never true

The product of two of the negative integers will always be positive. Then, when multiplying the positive product by the third negative integer, the product will always be negative.