Getting Ready – Operations with Integers
Notes

Name _____
Date _____ Period _____

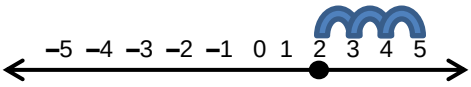
Integers are the set of natural numbers, their opposites, and zero. You use integers to record scores for miniature golf or to track seasonal temperatures. Pilots use integers to determine elevation changes. In football, integers are used to show yardage gains and losses. In accounting, integers are used to show profits and losses.

You can use a number line to locate integers. Integers to the left of 0 are negative and integers to the right of 0 are positive. To add a positive number on a number line, you move to the right. To add a negative number, you move to the left.

**Addition of Integers with Like Signs Examples**

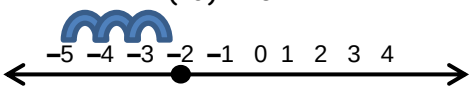
(Positive) + (Positive) = (Positive)

2 + 3 = 5




(Negative) + (Negative) = (Negative)

−2 + (−3) = −5




1. A diver was at an elevation of −10 feet. She descended 5 more feet. What is the diver's elevation now?

2. Bill is playing miniature golf. He shot +2, or 2 above par, in his first game and −3, or 3 below par, in his second game. What is Bill's score after two games?

3. The record high temperature for Alaska is 100°F. The record low temperature is −80°F. What is the difference between the high and low temperatures?

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When multiplying integers, multiply as you would with whole numbers. Then use the rules below to determine the sign of the product. If the signs are the same, the product is positive. If the signs are different, the product is negative.

| **Rules for Multiplying Integers** | **Examples** |
|---|---|
| Positive × Positive = Positive | 3 × 4 = 12 |
| Negative × Negative = Positive | (−3) × (−4) = 12 |
| Positive × Negative = Negative | 3 × (−4) = −12 |
| Negative × Positive = Negative | (−3) × 4 = −12 |

4. Jamal is standing at sea level on a canyon rim. He descends into the canyon at a rate of 10 feet per second. What will be Jamal's elevation in 60 seconds?

5. The Spartans football team lost 24 yards in the last 3 plays. What was the average number of yards per play?

6. Order expressions **a**, **b**, and **c** from greatest to least. **a.** −2 × 3 **b.** 3 − (−2) **c.** −3 + 2