ALBERT

Name _____ Date _____

Positive and Negative Numbers Worksheet

Grade 6 · Common Core 6.NS.C.5

> Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.

Practice

Builds the skill step by step.

1. Write an integer for a temperature of 8 degrees below zero.

2. Write an integer for a deposit of $25 into a bank account.

3. Write an integer for an elevation of 120 feet below sea level.

4. In the situation "a gain of 6 yards in football," what does 0 represent?

   A. No gain or loss

   B. A loss of 6 yards

   C. The end zone

   D. The start of the game

5. Write an integer for a loss of 4 points in a game.

6. Write the opposite of 15.

7. Write an integer for 3 floors below the ground floor of a building, where the ground floor is 0.

8. Which situation is best described by -10?

   A. Earning $10

   B. Climbing 10 meters up a hill

   C. Withdrawing $10 from a bank account

   D. A temperature of 10 degrees above zero

9. Write an integer for a temperature of 72 degrees above zero.

10. What is the opposite of -9?

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On Level

Grade-level practice.

1. A diver is 35 feet below the surface of the water. Write an integer for her position, with the surface as 0.

2. A store's profit was $1,250 one month and its loss was $300 the next month. Write integers for the profit and the loss.

3. At noon the temperature is −5°C. On the Celsius scale, what does 0 represent?

   A. The temperature at which water freezes

   B. No temperature at all

   C. The temperature at midnight

   D. 5 degrees above freezing

4. An atom has 6 protons, each with a charge of +1, and 6 electrons, each with a charge of −1. What is its total charge?

5. A submarine is at −250 meters. Then it rises to 100 meters closer to the surface. What integer describes its new position?

6. Death Valley's lowest point is 282 feet below sea level. Mount Whitney is 14,505 feet above sea level. Write integers for both elevations.

7. Which pair of numbers are opposites?

   A. -18 and -18

   B. -18 and 18

   C. 18 and 81

   D. -18 and $\frac{1}{18}$

8. In a quiz game, Mia gains 20 points, then loses 35 points. Write an integer for her score after both rounds if she started at 0.

9. A thermometer reads $-6°F$ in the morning. By afternoon it is 15 degrees warmer. What does it read in the afternoon?

10. Write the opposite of the opposite of -27.

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Challenge

Multi-step and word problems that stretch it.

1. A bank account had a balance of $40. Then there was a withdrawal of $65. Write an integer for the new balance and explain what it means.

2. The temperature was −12°F at 6 a.m. At noon it was 20°F. How many degrees did the temperature rise?

3. A hiker starts at 150 feet below sea level and climbs to 325 feet above sea level. How many feet does she climb?

4. Which statement about 0 is true for the situation "a football team's yards gained on each play"?

   A. 0 means the team gained no yards and lost no yards on a play.

   B. 0 means the team scored a touchdown.

   C. 0 is the 50-yard line.

   D. 0 cannot happen in this situation.

5. A company lost $2,400 in January and earned a profit of $3,100 in February. What is its total for the two months, as an integer?

6. A scuba diver is at -42 feet. A fish is 18 feet above the diver. At what depth is the fish, as an integer?

7. Sam says -8 is greater than -3 because 8 is greater than 3. Is he right? Explain using a real situation.

8. An elevator starts on floor 4. It goes down 6 floors, then up 3 floors. Floor 0 is the ground floor. What floor is it on now?

9. The highest point on Earth is about 29,032 feet above sea level. The deepest point in the ocean is about 36,070 feet below sea level. What is the vertical distance between them?

10. Write a real-world situation for the integer -50 and explain what 0 means in your situation.