6.NS.7: Worksheet

Solutions

1. What does the statement $-5 < -2$ tell us? -5 is less than -2, meaning that -5 is to the left of -2 on the number line

2. What does the statement $-\frac{1}{11} > -\frac{6}{11}$ tell us? $-\frac{1}{11}$ is greater than $-\frac{6}{11}$, meaning that $-\frac{1}{11}$ is to the right of $-\frac{6}{11}$ on the number line

3. Freddie the frog sits at -2 on the number line and hops 3 units away. Where on the number line is he now? Freddie can be either at 1 or at -5

4. Alf, a penguin, dives down to 200 feet below sea level. Ari, his friend, dives down to 193 feet below sea level. Which penguin reached a greater depth? Explain your reasoning. Alf reached a greater depth. Alf dived to a position of -200 feet and Ari dived down to a position of -193 feet, and while $-193 > -200$, a depth of $|-200| = 200$ feet is greater than a depth of $|-193| = 193$ feet.

5. How many numbers can have an absolute value of 6? Why? What are they? Two, because the absolute value tells us the distance of the number from 0 on the number line. Both -6 and 6 are six units away from 0, so they both have an absolute value of 6.

6. Write three inequalities comparing each of the temperatures $3°C$, $-9°C$, and $-1°C$. What does each inequality tell us?

- $3°C > -9$ °C tells us that $3°C$ is warmer than $-9°C$.

- $3°C > -1$ °C tells us that $3°C$ is warmer than $-1°C$.

- $-1°C > -9$ °C tells us that $-1°C$ is warmer than $-9°C$.

7. Reggie's account balance is -215 dollars. (He shouldn't have bought those anti-gravity boots.) How much money does Reggie owe? Reggie owes $|-215| = 215$ dollars

8. Alexa has an account balance of less than -60 dollars, and Carmen has an account balance of more than -60 dollars. Who is in more debt? How do you know? Alexa is in more debt. If Alexa has an account balance of less than -60 dollars, she's *more than* $|-60| = 60$ dollars in debt. If Carmen has an account balance of more than -60 dollars, she's *less than* $|-60| = 60$ dollars in debt.

9. Samantha rides her bike -4 miles due east. What does this mean? What does the absolute value of this number mean? If Samantha rode her bike -4 miles due east, that means she rode her bike 4 miles due west. Taking the absolute value of this number tells us the total distance she traveled, but not the direction.

10. Write an inequality to express the fact that being 20 dollars is better than owing 30 dollars. $-30 < -20$