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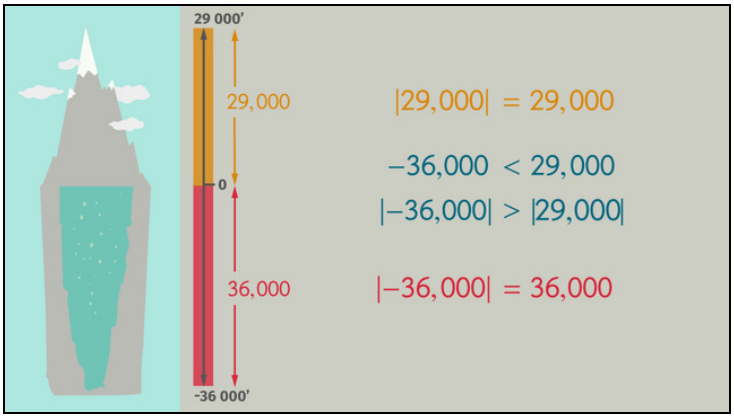
Introduction to Absolute Value



1. **Decide which is further from sea level.**
2. Describe absolute value.
3. Determine the absolute value of the numbers.
4. Determine the winner of the absolute value game.
5. Decide which terms have the same absolute value.
6. Find the absolute values.

\+ with lots of tips, answer keys, and detailed answer explanations for all of the problems.

Decide which is further from sea level.

Choose the correct statements.

Lara and Philip have to decide where to go for their next holiday: Mount Everest or the Mariana Trench.

They know they want to spend their holidays as far away from sea level as possible.

- To the peak of Mount Everest, it's about 29000 feet and
- to the deepest point of the Mariana Trench, it's about -36000 feet.

☐ **A** The deepest point of the Mariana Trench is further away from sea level than the peak of Mount Everest.

☐ **B** Because $-36000 < 29000$, the peak of Mount Everest is further away from sea level than the deepest point of the Mariana Trench.

☐ **C** To determine the distance from sea level we have to look at the absolute values:
- $|29000| = 29000$ and
- $|-36000| = 36000$.

☐ **D** We can conclude that the deepest point of the Mariana Trench is further away from sea level than the peak of Mount Everest.

☐ **E** There are numbers that have a negative absolute value.

☐ **F** Absolute values are always positive numbers (or zero).

Hints for solving these problems

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Decide which is further from sea level.

Hint #1

For example $|-3| = 3$ as well as $|3| = 3$.

Hint #2

The absolute value on a number line is the distance of any number to the zero point.

Hint #3

Look at the following example:

- $-6 < 4$, but
- $|-6| = 6 > 4$.

Answers and detailed answer explanations for these problems

1 of 6

Decide which is further from sea level.

Answer key: A, C, D, F

Let's have a look at the information we're given:

- From sea level, it's about 29000 feet to the peak of Mount Everest and
- about -36000 feet to the deepest point of the Mariana Trench.

To decide which is further away from sea level, we have to take a look at the absolute values:

- $|29000| = 29000$ and
- $|-36000| = 36000$.

Keep in mind that absolute values are always positive numbers.

$36000 > 29000$.

So that's the decision: They will go to the Mariana Trench.