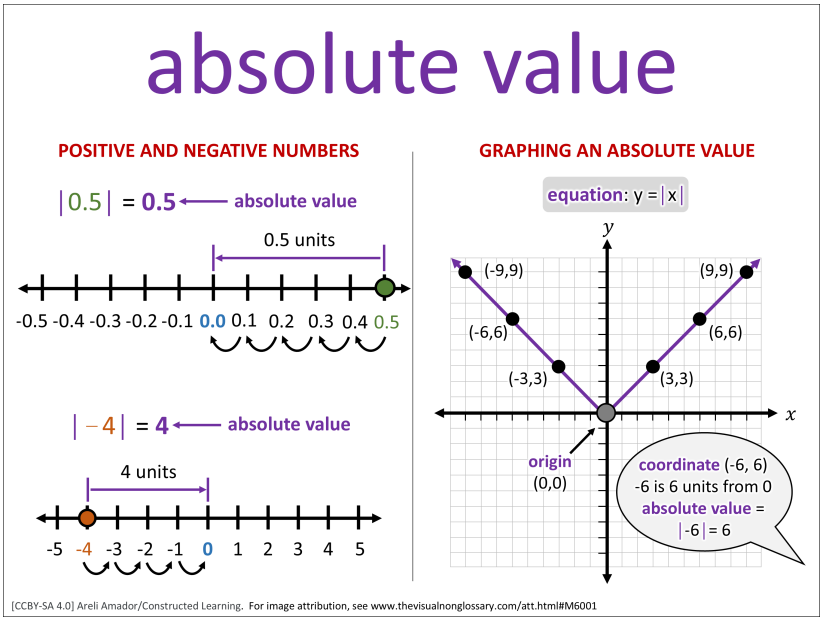
The Visual Non-Glossary™

Understanding Absolute Value

The purpose for reading is to figure out what absolute value means and how a number line and the idea of distance can help us understand it.

Look Out For:

- What absolute value means
- How a number and its opposite are shown on a number line
- How far numbers are from zero
- How absolute value is written in math
- How absolute value compares to negative and positive numbers



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The **absolute value** of a number means how far it is from zero. It does not matter if the number is negative or positive. What matters is the distance. For example, –4 and 4 are both 4 spaces from zero. So, their **absolute values** are the same.

We show **absolute value** using straight lines like this: |–4|. That means "the **absolute value** of –4." The answer is 4. The same is true for |4|.

Some people think **absolute value** and opposite numbers are the same. But they are not. Opposites have the same numbers but different signs. For example, –3 and 3 are opposites. Their **absolute values** are the same, but the numbers are different.

Even negative numbers have a distance from zero. **Absolute value** shows how far a number is from zero. It is about distance, not direction.

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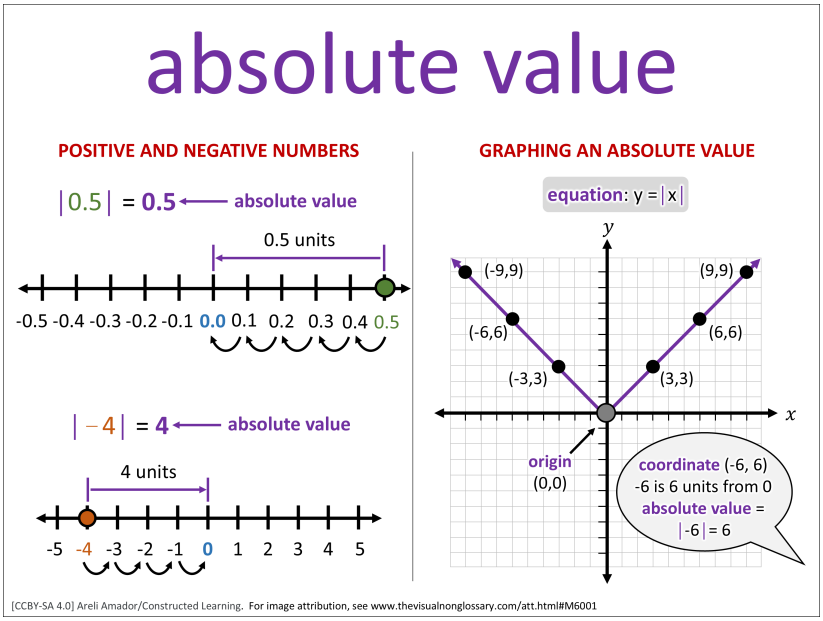
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The **absolute value** of a number tells how far that number is from zero on a number line. It does not matter whether the number is positive or negative. What matters is the distance. For example, both –4 and 4 are four units away from zero, so their **absolute values** are the same.

We show **absolute value** using vertical bars. The symbol |–4| means "the absolute value of –4." Since –4 is four units from zero, |–4| equals 4. The same is true for |4|, which also equals 4.

Some students may think that **absolute value** and opposite numbers are the same. They are not. Opposite numbers have the same digits but different signs, like –3 and 3. Their **absolute values** are the same, but the numbers themselves are different. The **absolute value** shows only the distance, not the direction.

Even negative numbers have a distance from zero. Whether a number is positive or negative, its **absolute value** shows how far it is from zero on the number line. When we think about distance, we focus on how much space is between two points,

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not the direction. This is why **absolute value** is often described in terms of distance.

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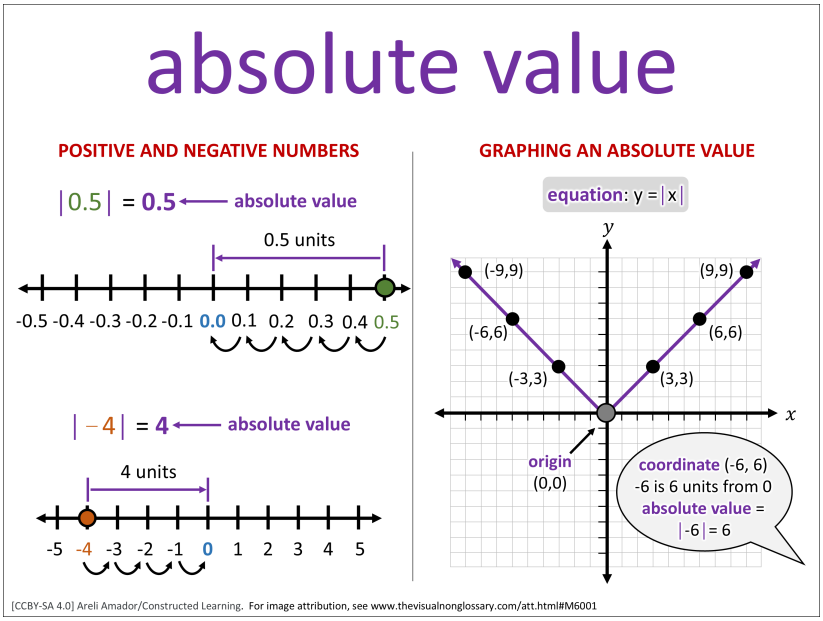
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Absolute value refers to the distance between a number and zero on a number line. It measures how far a number is from zero, regardless of whether the number is positive or negative. For example, the numbers –4 and 4 are both four units away from zero, so their **absolute values** are the same.

Mathematically, we use vertical bars to represent **absolute value**. The expression |–4| means "the **absolute value** of –4," and its value is 4. Likewise, |4| is also equal to 4.

Students sometimes confuse **absolute value** with opposite numbers. While opposites like –3 and 3 have identical **absolute values**, they are not the same number. Opposites are about direction; **absolute value** is only about distance.

Negative numbers can still be measured by how far they are from zero. When we talk about **absolute value**, we are describing that distance. It is not about which way the number goes, but how far it is from zero.

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