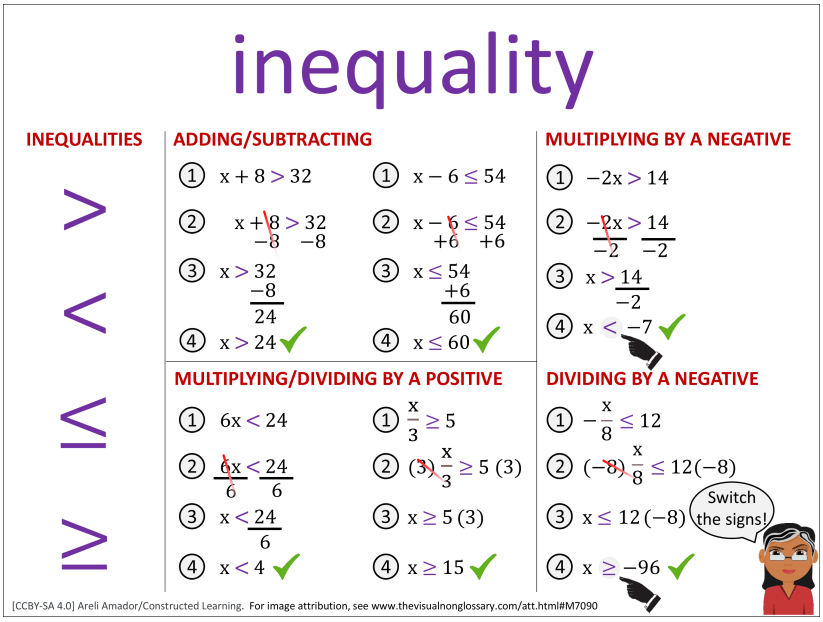
The Visual Non-Glossary™

Saving and Comparing Money

The purpose for reading is to understand how an inequality represents a real world situation and shows what must be true about a value.

Look Out For:

- Where an inequality is used to represent a situation
- What the inequality shows must be true about a value
- How the situation connects to the inequality expression
- What changes or stays the same in the inequality



Jalen is saving money to buy new shoes. He wants to have more than $50 before he goes to the store. If he has an amount of money called *x*, he can show this with an **inequality** like $x > 50$. Each week, he adds more money. He uses this **inequality** to see if he has enough money.

When solving an **inequality**, you must do the same thing to both sides. If you add or subtract, the **inequality** stays the same. If you multiply or divide by a positive number, it also stays the same. But if you multiply or divide by a negative number, the sign changes. This means the direction of the **inequality** flips.

Now Jalen has a new goal. He wants to have at least $40 after buying a game that costs $15. If he starts with an amount *x*, this can be shown as an **inequality** like $x - 15 \geq 40$. This shows what must be true about his money.

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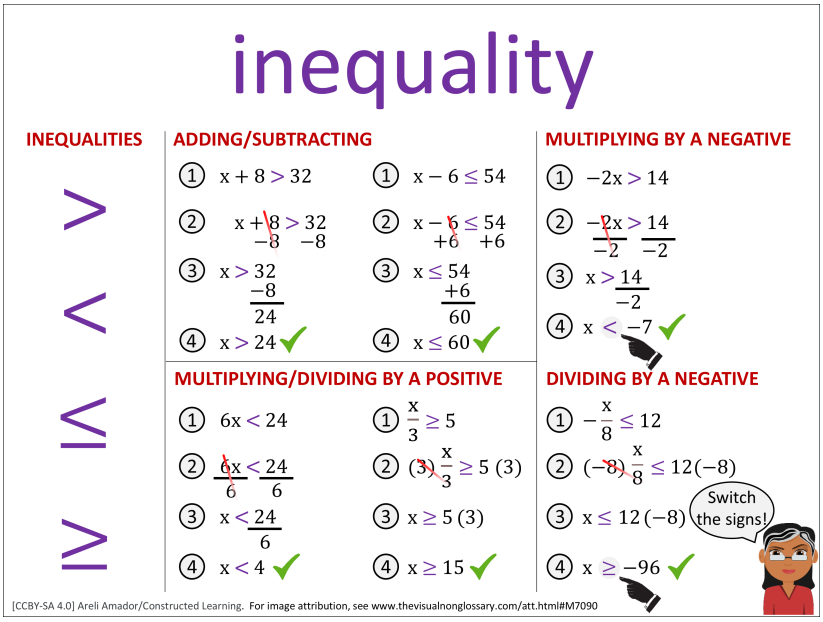

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Jalen is saving money to buy a new pair of shoes. He wants to have more than $50 before he goes to the store. If he currently has an amount of money represented by *x* , he can show this using an **inequality** like *x* > 50. Each week, he adds money to what he already has. Jalen uses this **inequality** to compare how much money he has to his goal.

When solving an **inequality**, you can change both sides in the same way to keep the comparison true. If you add or subtract the same number on both sides, the direction of the **inequality** stays the same. If you multiply or divide both sides by a positive number, the comparison also stays the same. However, when you multiply or divide both sides by a negative number, the direction of the **inequality** changes. This happens because the values switch positions on a number line.

Now imagine Jalen has a different goal. He wants to have at least $40 after buying a game that costs $15. If he starts with an amount represented by *x*, this situation can be shown with an **inequality** like *x* − 15 ≥ 40. This helps represent what must be true

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about his money.

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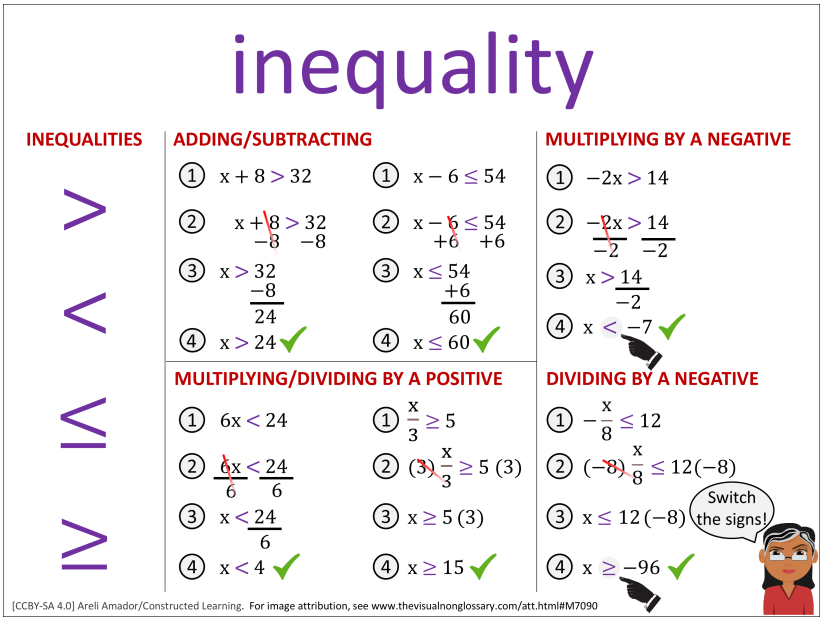

Jalen is saving money to buy a new pair of shoes. He wants to have more than $50 before he goes to the store. If his current amount is represented by *x*, he can model this situation with an **inequality** such as $x > 50$. As he adds money each week, he uses this **inequality** to determine whether his total meets his goal. This comparison helps him decide if he is ready to make the purchase.

When solving an **inequality**, it is important to maintain a true comparison between both sides. Adding or subtracting the same value keeps the **inequality** balanced. Multiplying or dividing by a positive number also preserves the direction of the comparison. However, multiplying or dividing by a negative number reverses the direction of the **inequality**. This occurs because the relative positions of the values change on a number line.

Now consider a different situation. Jalen wants to have at least $40 after buying a game that costs $15. If his starting amount is represented by *x*, this situation can be modeled with an **inequality** such as $x - 15 \geq 40$. This representation shows the

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condition his money must satisfy.