

Use Math to Calculate Family Relationships

If you enjoy math, you can use it to calculate your cousinship. First, answer the three questions below:

1. Who is the **common ancestor** of my cousin and me?
2. How many generations am I separated from this ancestor? How many generations is my cousin separated from this ancestor?

Tip: Count the number of "G's" in the common ancestor's title and add 1.

- Your Grandparents ($1G + 1 = 2$) are 2 generations away
 - Your Great-Grandparents ($2Gs + 1$) are 3 generations away
 - Your Great-Great Grandparent ($3Gs + 1 = 4$) are 4 generations away
3. Who is **more removed** (more generations away) from the common ancestor?
 4. The next steps will be different depending on how many generations both you and your cousin are from your common ancestor.

You are both the SAME number of generations away from your common ancestor.

Example: The common ancestor is both you and your cousin's great-great grandparents.

- Count how many "greats" are in your common ancestor's title and add 1. This will give you the correct number to label your cousin as.
 - *Example: You and your relative share great-great grandparents. There are 2 "greats" in this title. $2 \text{ "greats"} + 1 = 3$, so you are third cousins.*
 - Because you are the same number of generations separated from each other's common ancestor (meaning you are of the *same generation*), you and your cousin are not removed from each other.

Your cousin is FEWER generations away from your common ancestor than you are.

Example: The common ancestor is your cousin's great-grandparent and your great-great grandparent

- Count how many "greats" are in your cousin's common ancestor's title and add 1. You now have the correct number label for your cousin.

- *Example: The common ancestor is your cousin's great-grandparent. 1 "great" + 1 = 2, so this is your second cousin.*
- Subtract the number of generations your cousin is separated from the common ancestor from the number of generations you are separated from the common ancestor. The answer is how removed this cousin is from you.
- *Example: If your great-great grandparent is your cousin's great-grandparent, then you are 4 generations removed and your cousin is 3 generations removed from your common ancestor. 4 generations – 3 generations = 1 generation removed, so this is your cousin once removed.*
- *In this scenario, your relative is your second cousin once removed.*

Your cousin is MORE generations away from the common ancestor than you are.

Example: The common ancestor is your cousin's 3rd great-grandparent and your great-great grandparent

- Count how many "greats" are in your common ancestor's title and add
- 1. Now you have the correct label for your cousin.
- *Example: If the common ancestor is your great-grandparent, there is only one "great" in this title. 1 "great" + 1 = 2, so this is your second cousin.*
- Subtract the number of generations you are separated from the common ancestor from the number of generations your cousin is separated from the common ancestor. The answer is how removed this cousin is from you.
- *Example: If your cousin's 3rd great-grandparent is your great-grandparent, then your cousin is 5 generations removed and you are 3 generations removed from the common ancestor. 5 generations – 3 generations = 2 generations removed, so you are my cousin twice removed.*
- *In this scenario, your relative is your second cousin twice removed.*