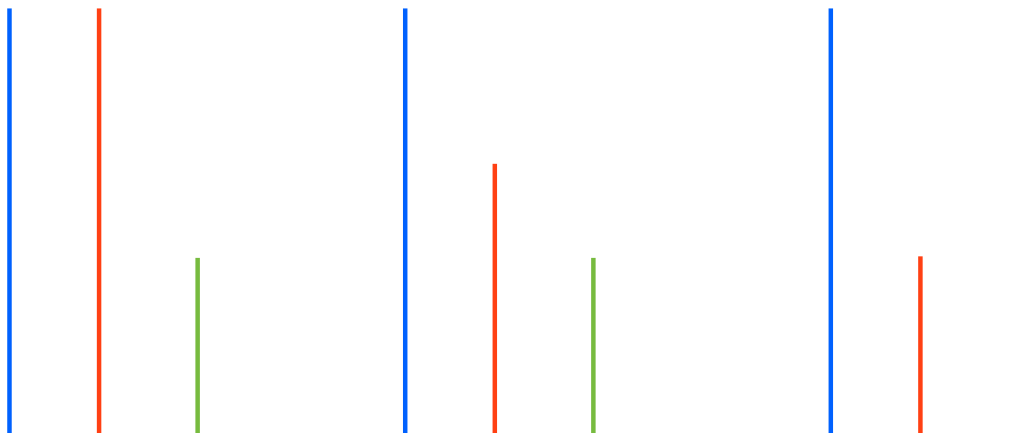
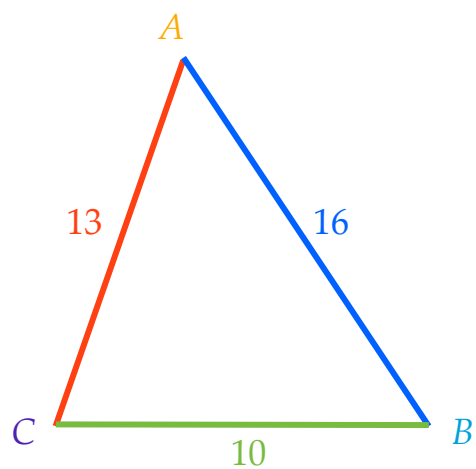


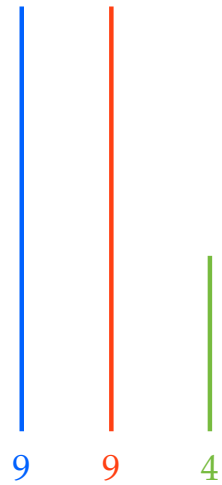
What does it take to make a triangle?



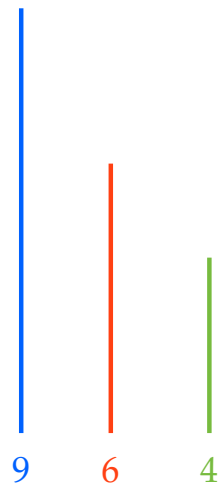
The sum of the lengths of any **two sides** must be greater than the length of the **third side**.



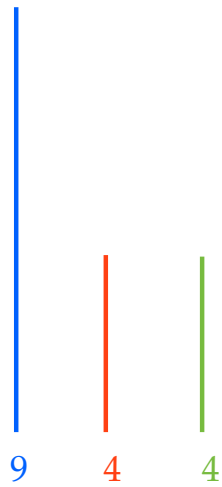
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Can a triangle have sides with the following lengths?

Side lengths: **4, 8, 11**

Side lengths: **3, 9, 14**

Given the lengths of two sides of a triangle, find the possible length of the third side.

Side lengths: 5, 10

Given the lengths of two sides of a triangle, find the possible length of the third side.

Side lengths: 8, 8

The sum of the lengths of any **two sides** must be greater than the length of the **third side**.

$$10 + 13 > 16 \quad \checkmark$$

$$10 + 16 > 13 \quad \checkmark$$

$$13 + 16 > 10 \quad \checkmark$$

The **two shortest sides** must add to be greater than the **longest side**.

