

두 원의 위치 관계

(The Positional Relationship of Two Circles)

The Positional Relationship of Two Circles

▶ Start

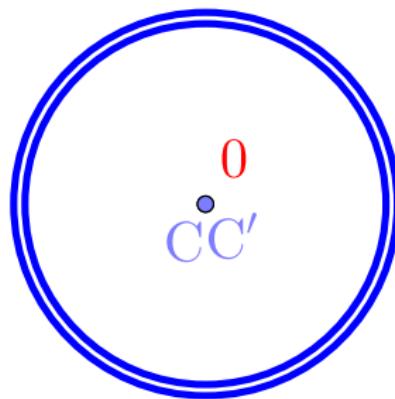
▶ End

The Positional Relationship of Two Circles

▶ Start

▶ End

$$r_1 = 16 \quad r_2 = 17 \quad d = 0$$



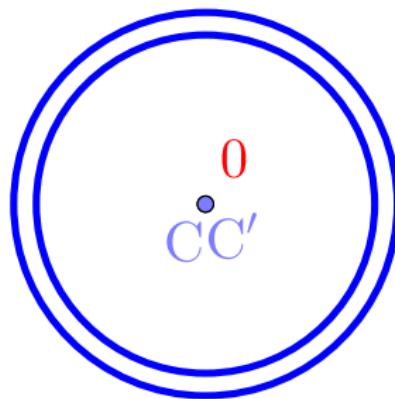
$$16 + 17 = 33 \quad |16 - 17| = 1$$

The Positional Relationship of Two Circles

▶ Start

▶ End

A diagram illustrating the positional relationship between two circles. Two horizontal lines represent the centers of the circles. The left line has a green dot at its center, labeled $r_1 = 15$ in green. The middle line has a purple dot at its center, labeled $r_2 = 17$ in purple. The right line has a red dot at its center, labeled $d = 0$ in red. The centers are collinear and coincide.



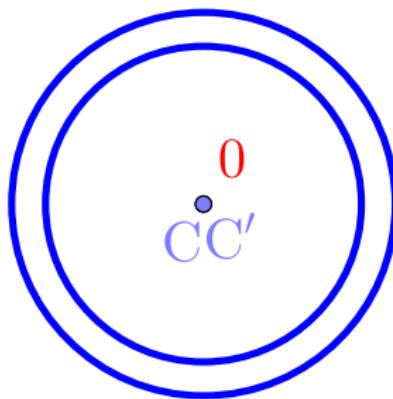
$$15 + 17 = 32 \quad |15 - 17| = 2$$

The Positional Relationship of Two Circles

▶ Start

▶ End

$$r_1 = 14 \quad r_2 = 17 \quad d = 0$$



$$14 + 17 = 31 \quad |14 - 17| = 3$$

The Positional Relationship of Two Circles

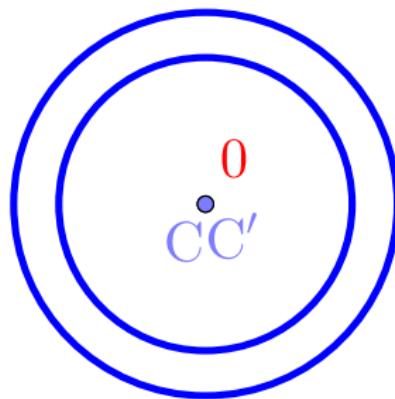
▶ Start

▶ End

$$r_1 = 13$$

$$r_2 = 17$$

$$d = 0$$



$$13 + 17 = 30$$

$$|13 - 17| = 4$$

The Positional Relationship of Two Circles

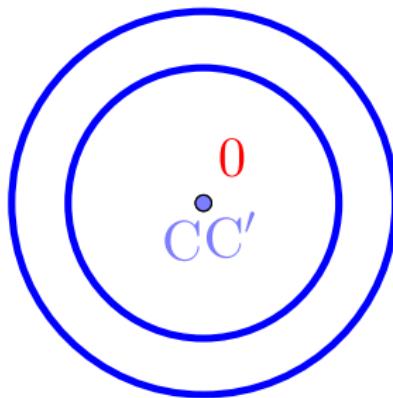
▶ Start

▶ End

$$r_1 = 12$$

$$r_2 = 17$$

$$d = 0$$



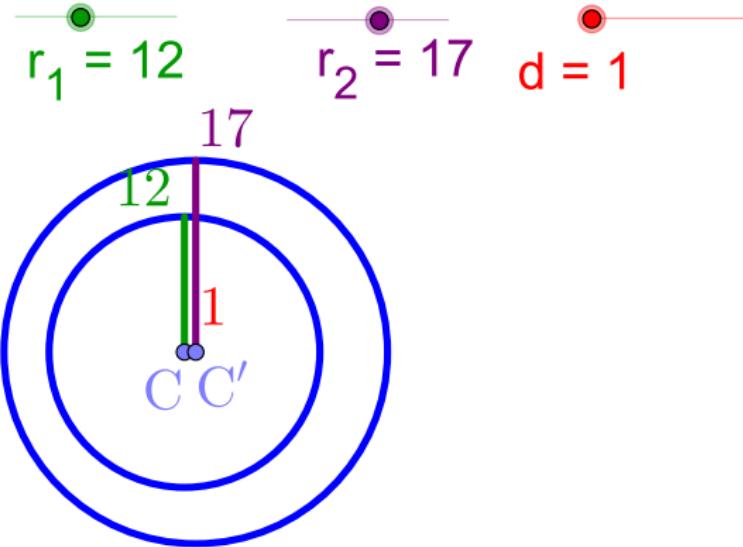
$$12 + 17 = 29$$

$$|12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End



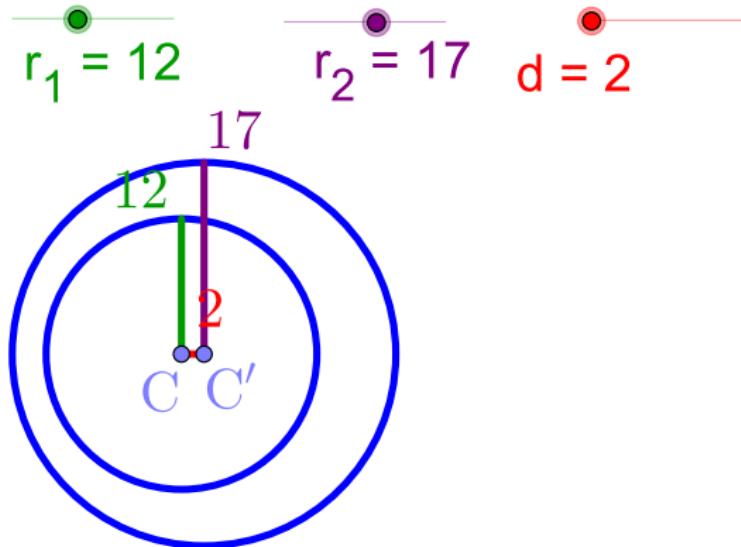
$$12 + 17 = 29$$

$$|12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End



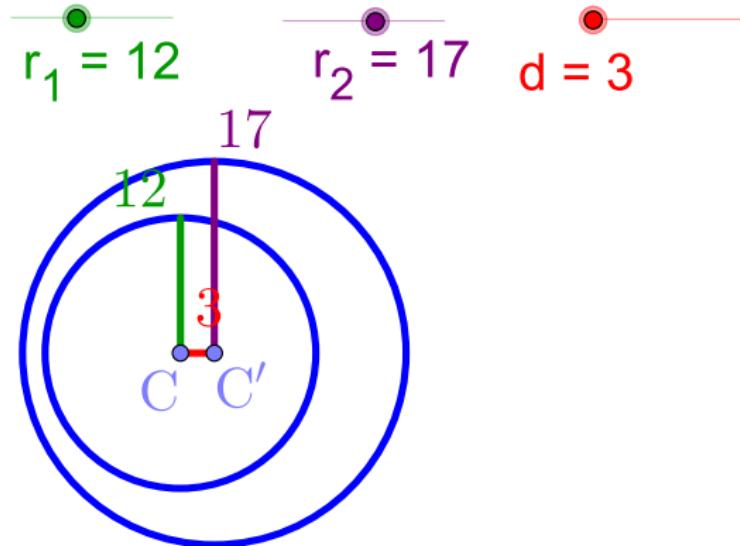
$$12 + 17 = 29$$

$$|12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End

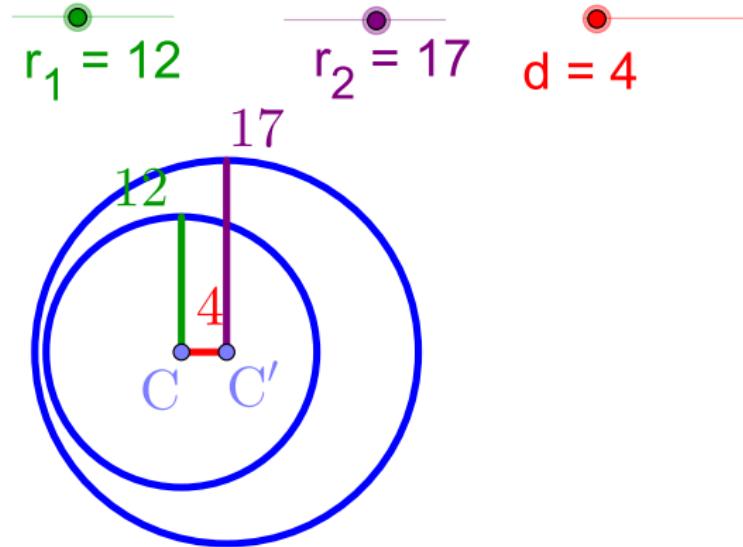


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End



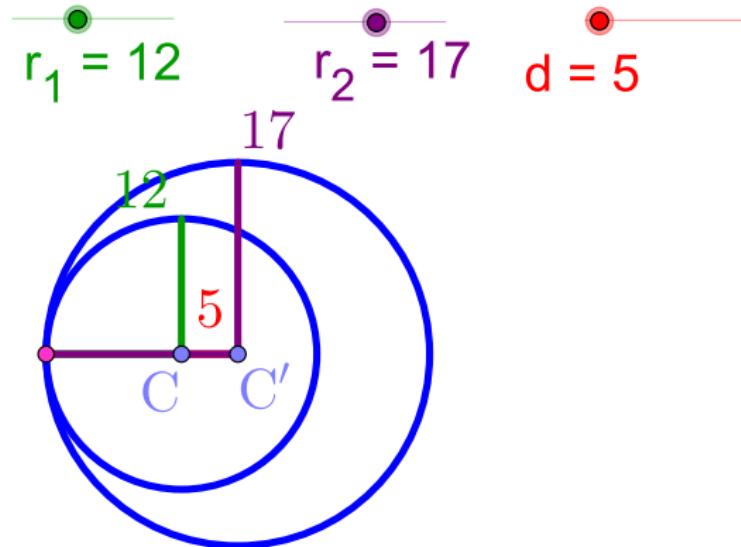
$$12 + 17 = 29$$

$$|12 - 17| = 5$$

The Positional Relationship of Two Circles

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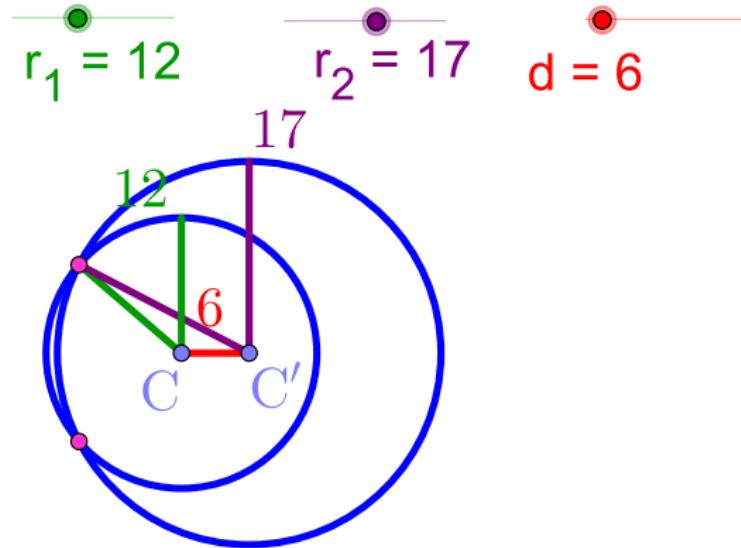


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End

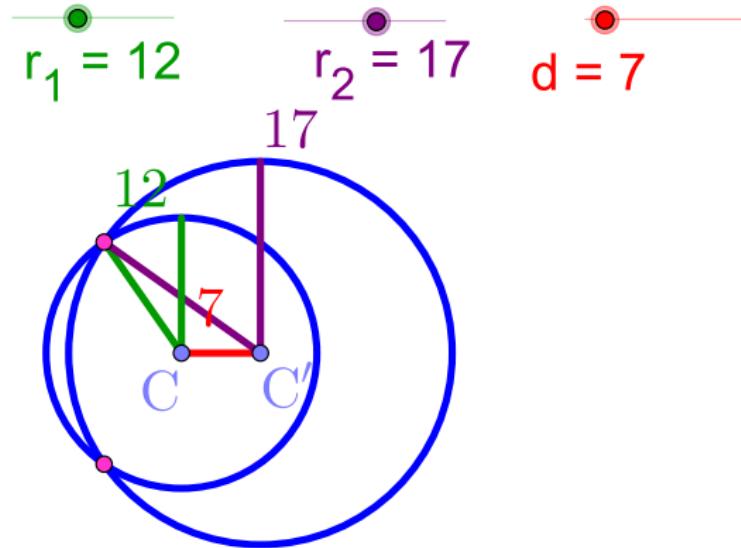


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

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▶ End

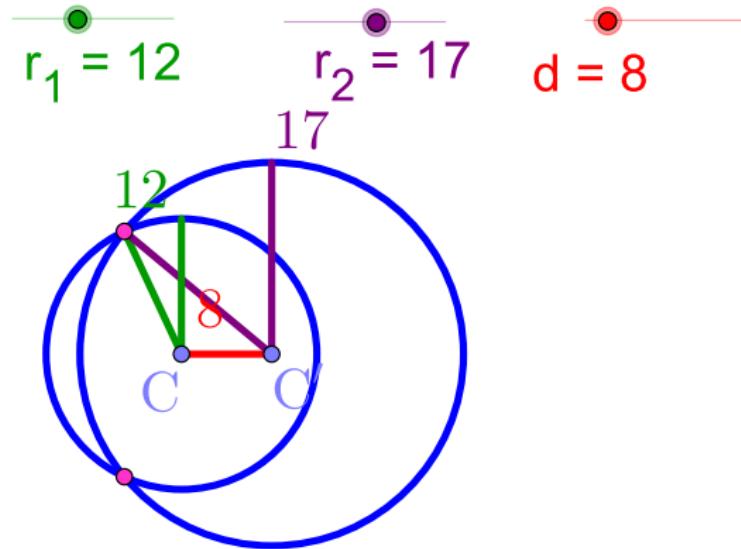


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

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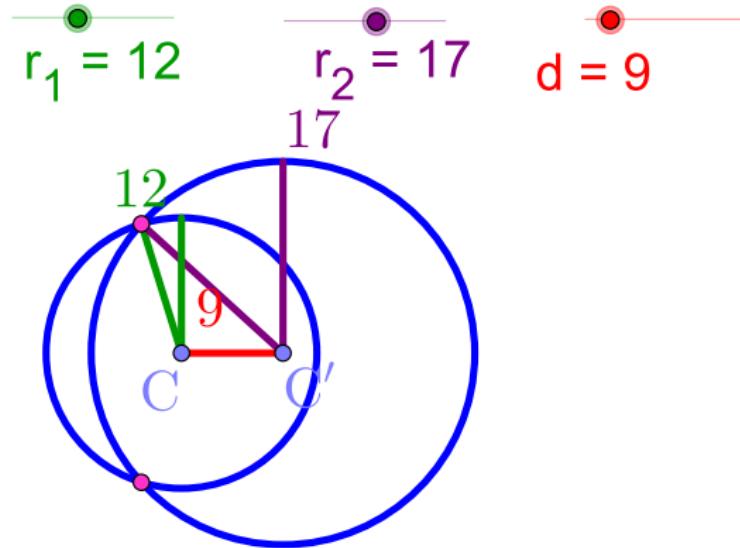


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

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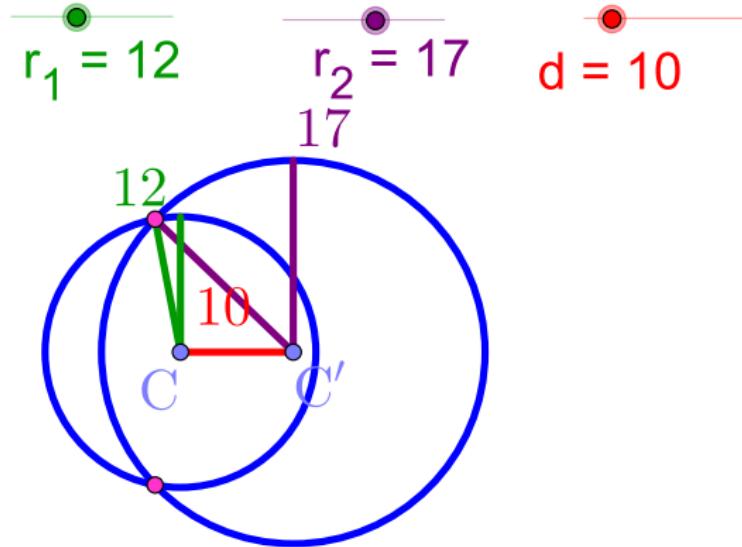


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End



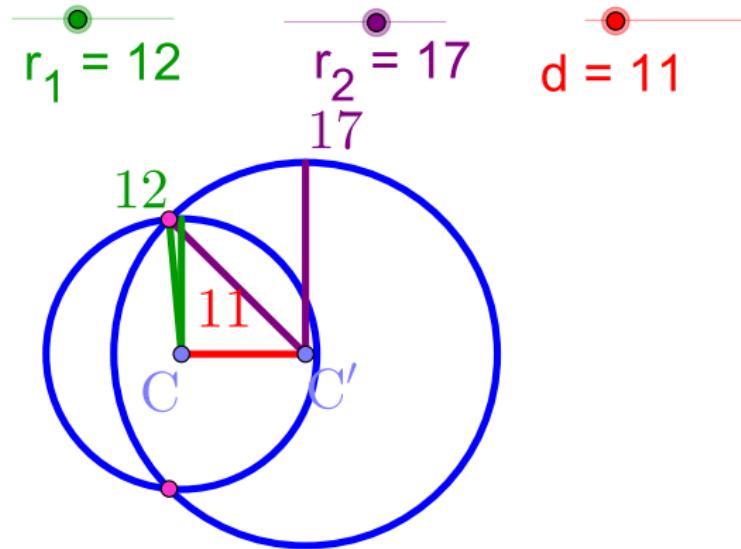
$$12 + 17 = 29$$

$$|12 - 17| = 5$$

The Positional Relationship of Two Circles

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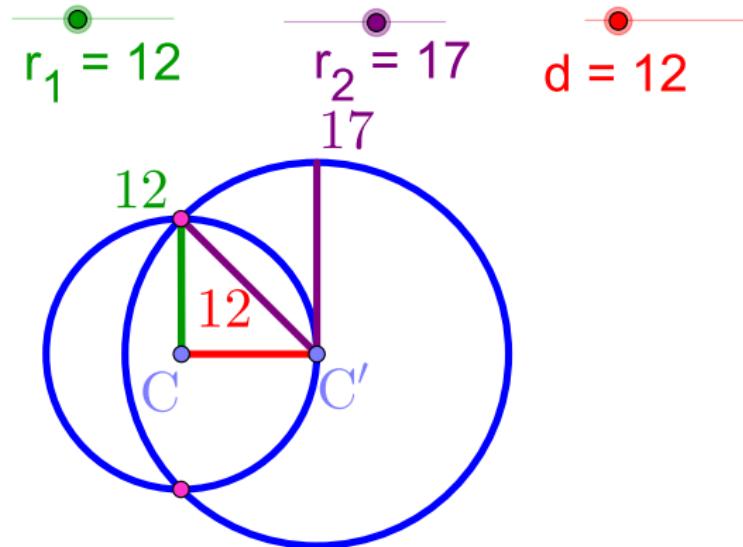
$$12 + 17 = 29$$

$$|12 - 17| = 5$$

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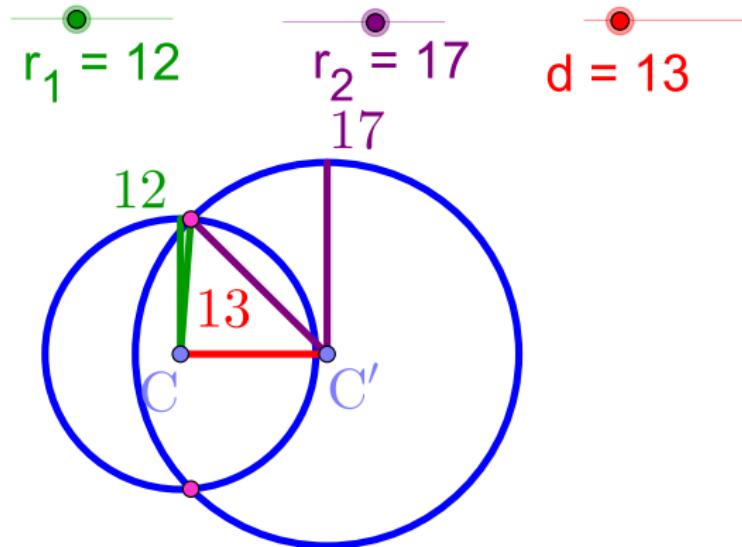


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End

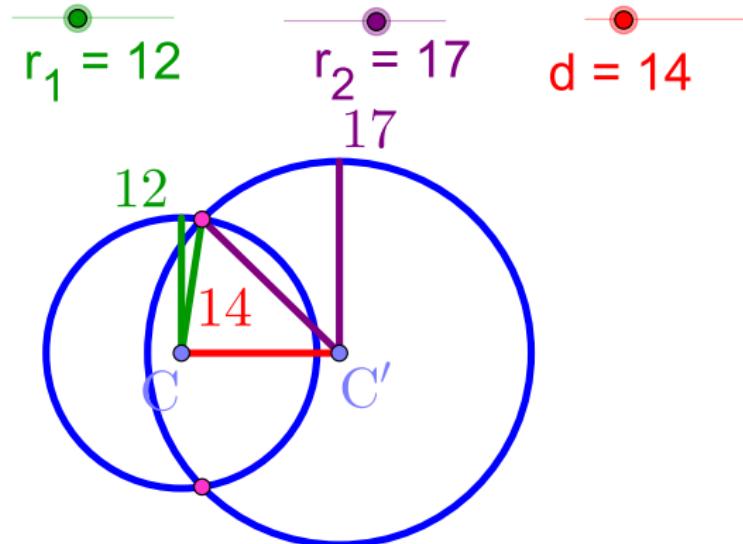


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

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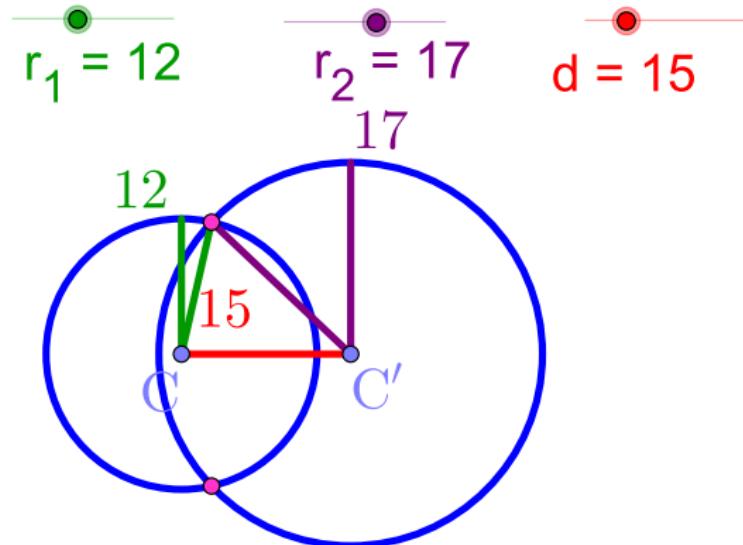


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

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▶ End

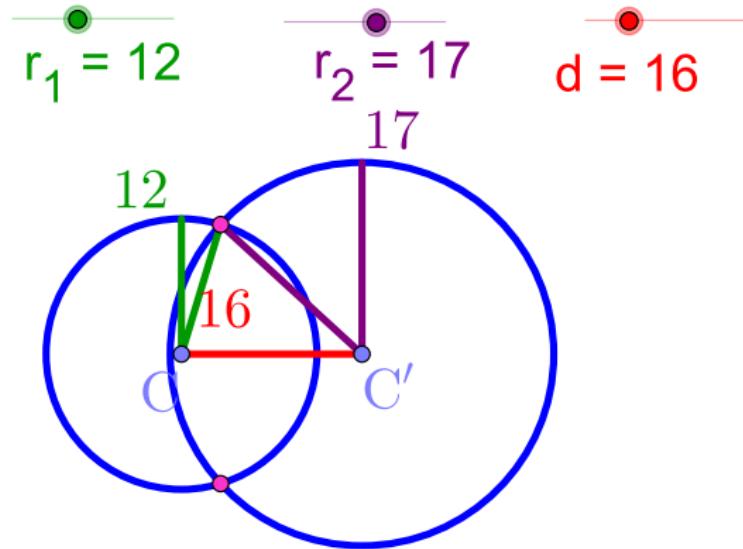


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

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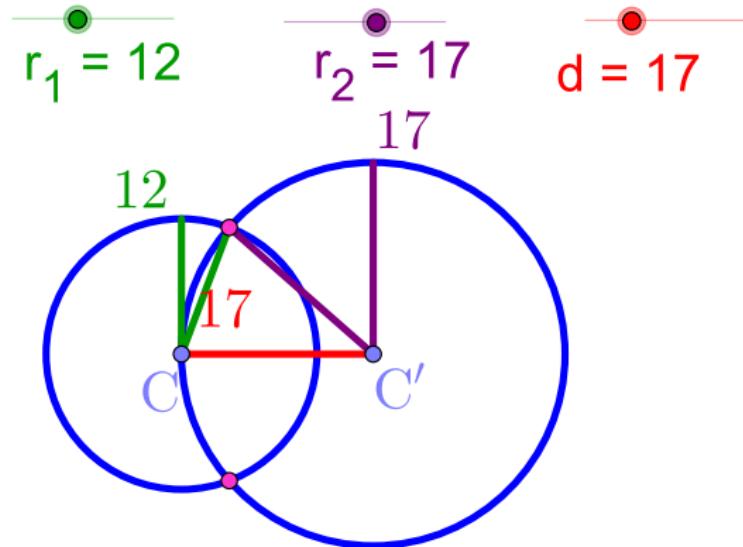


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End

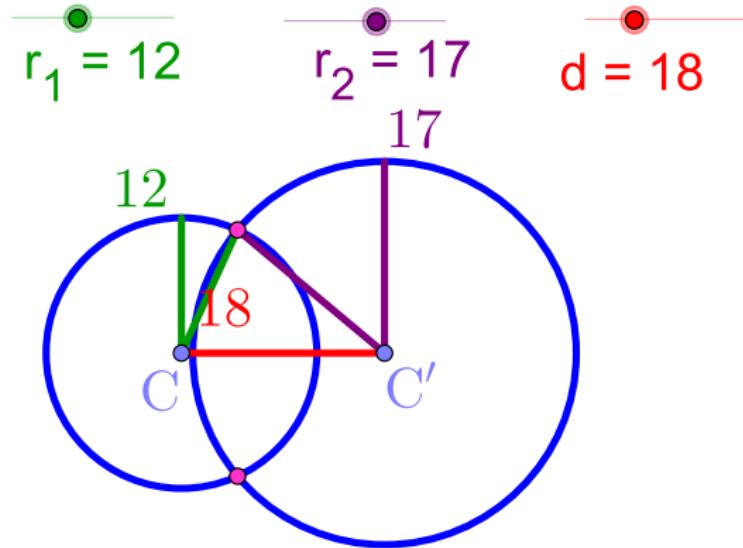


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End



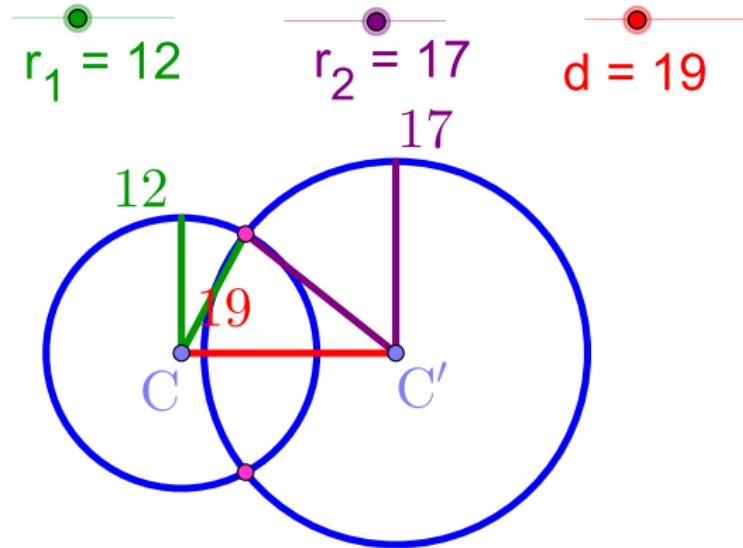
$$12 + 17 = 29$$

$$|12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End

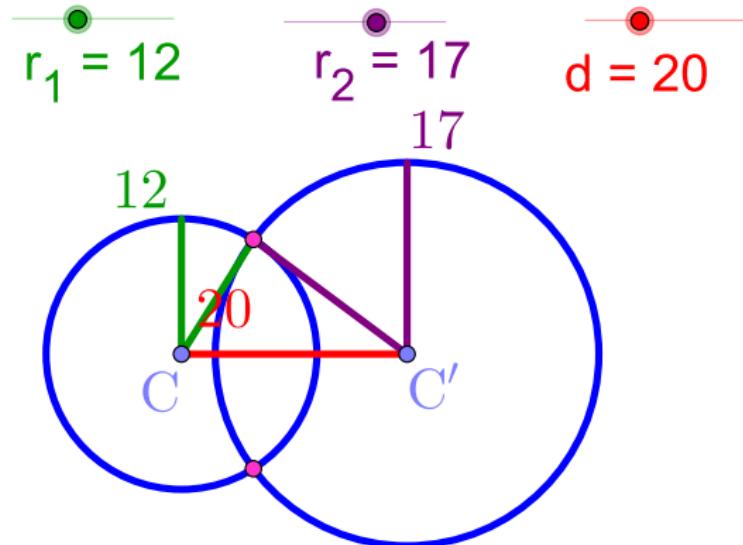


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End

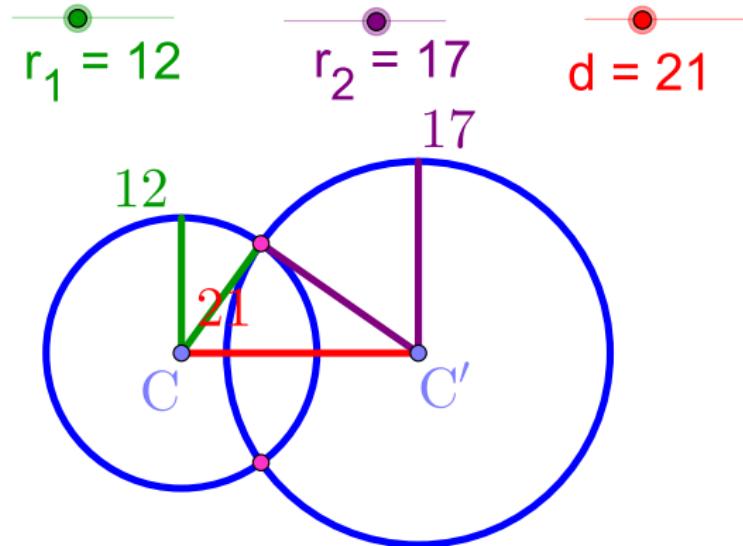


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End

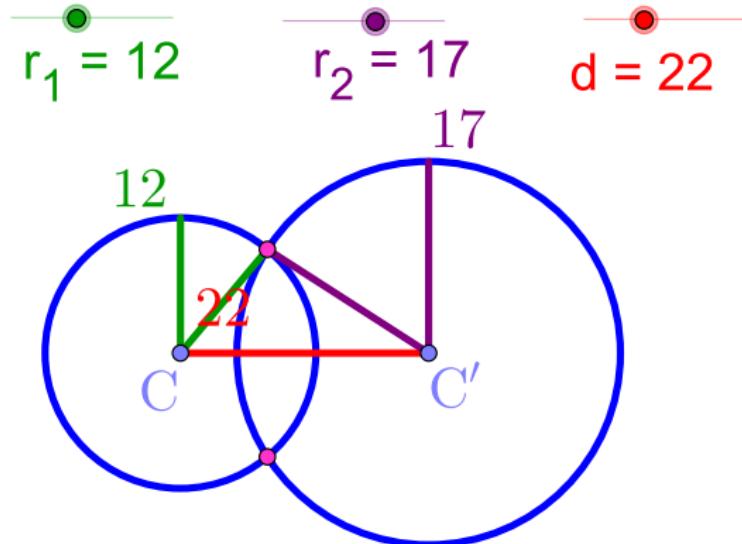


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End

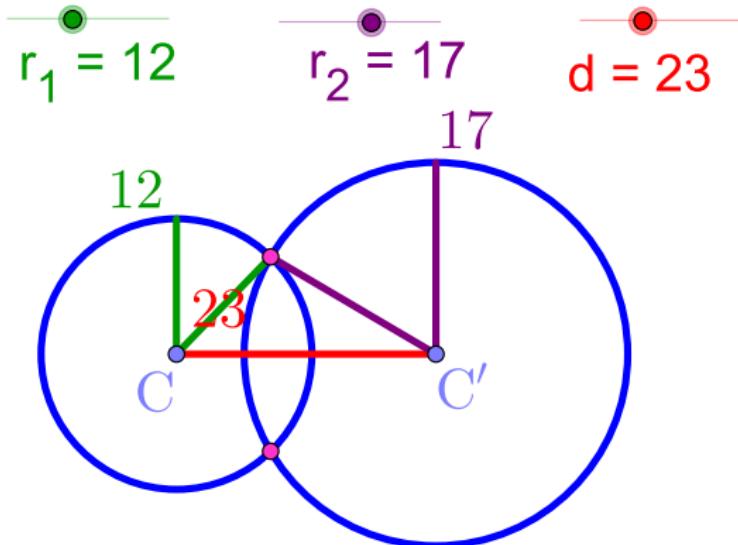


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End



$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

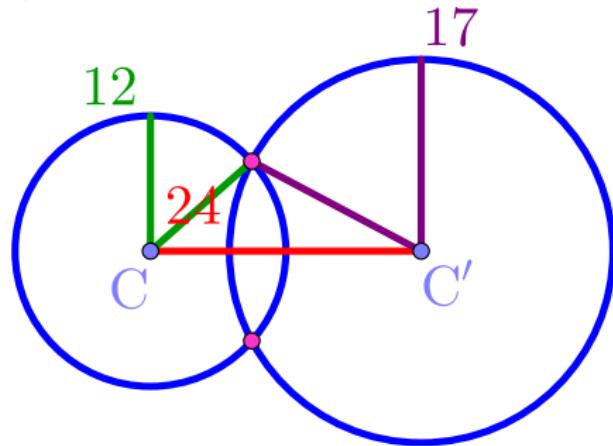
▶ Start

▶ End

$$r_1 = 12$$

$$r_2 = 17$$

$$d = 24$$



$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

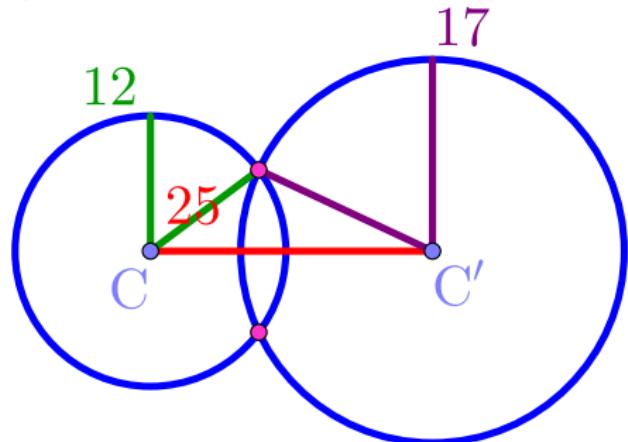
▶ Start

▶ End

$$r_1 = 12$$

$$r_2 = 17$$

$$d = 25$$



$$12 + 17 = 29$$

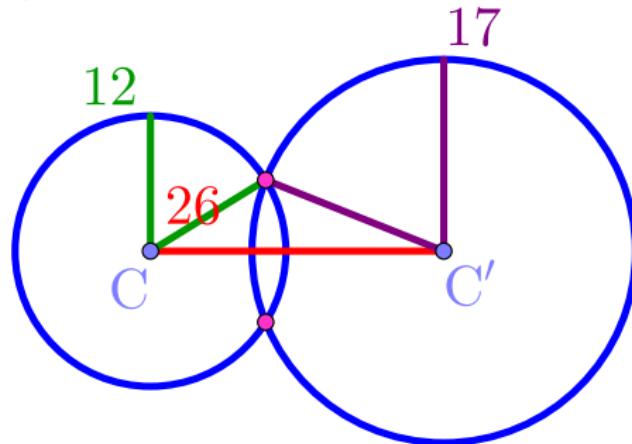
$$|12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End

Three horizontal lines above the diagram represent the centers and radii:
1. A green line with a green dot at the left end, labeled $r_1 = 12$.
2. A purple line with a purple dot at the left end, labeled $r_2 = 17$.
3. A red line with a red dot at the left end, labeled $d = 26$.



$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

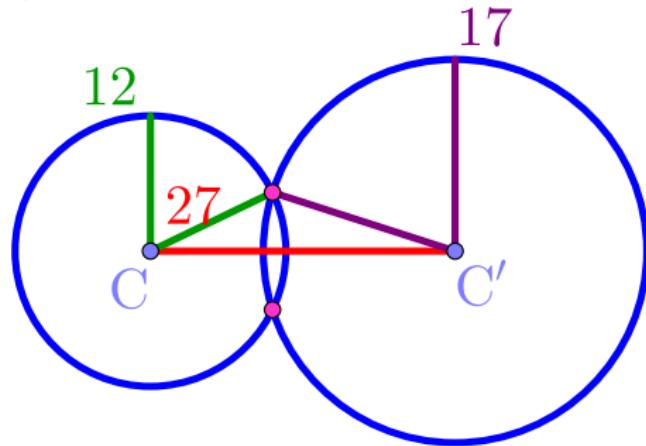
▶ Start

▶ End

$$r_1 = 12$$

$$r_2 = 17$$

$$d = 27$$



$$12 + 17 = 29$$

$$|12 - 17| = 5$$

The Positional Relationship of Two Circles

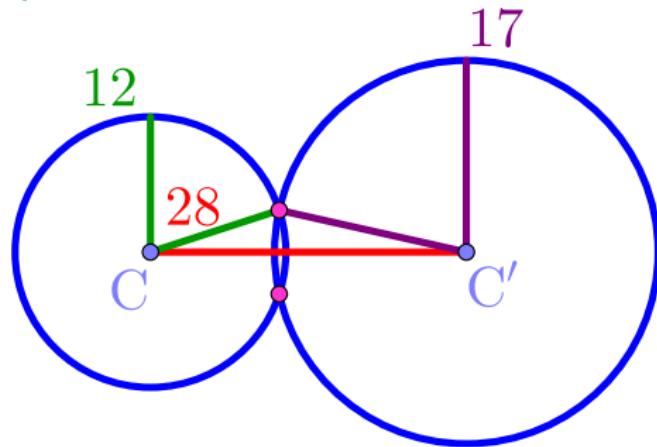
▶ Start

▶ End

$$r_1 = 12$$

$$r_2 = 17$$

$$d = 28$$

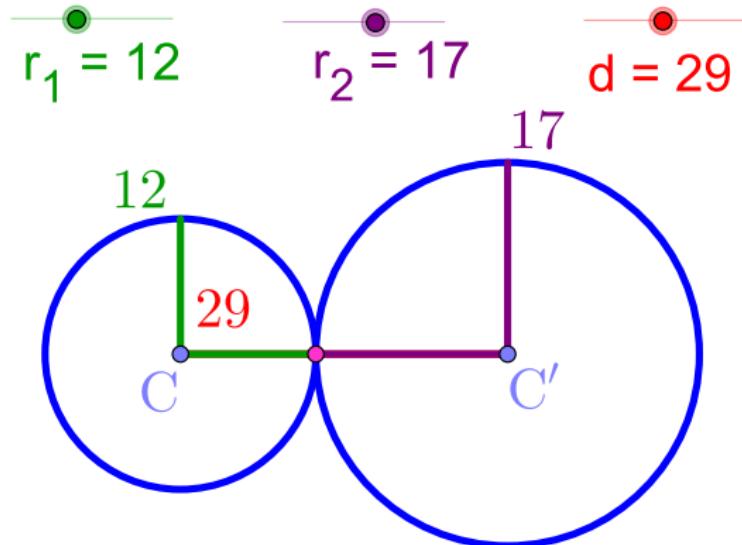


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End



$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

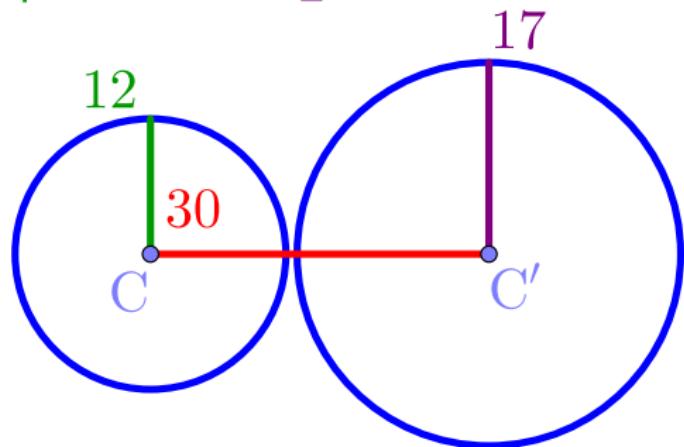
▶ Start

▶ End

$$r_1 = 12$$

$$r_2 = 17$$

$$d = 30$$



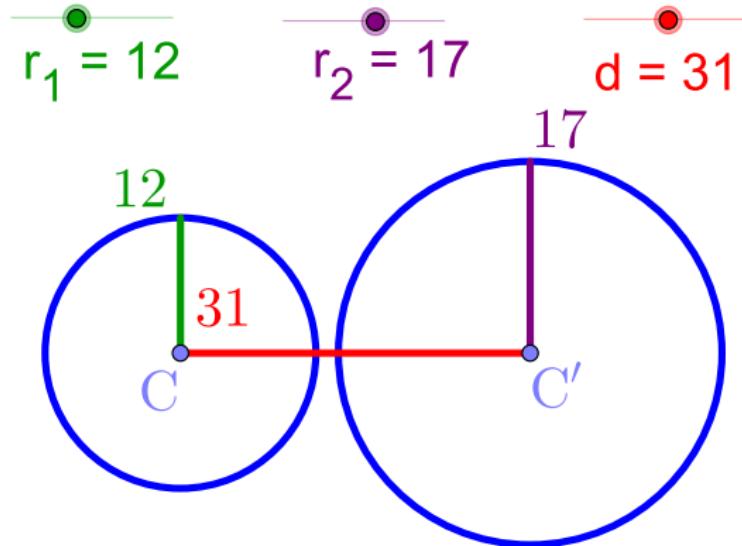
$$12 + 17 = 29$$

$$|12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End



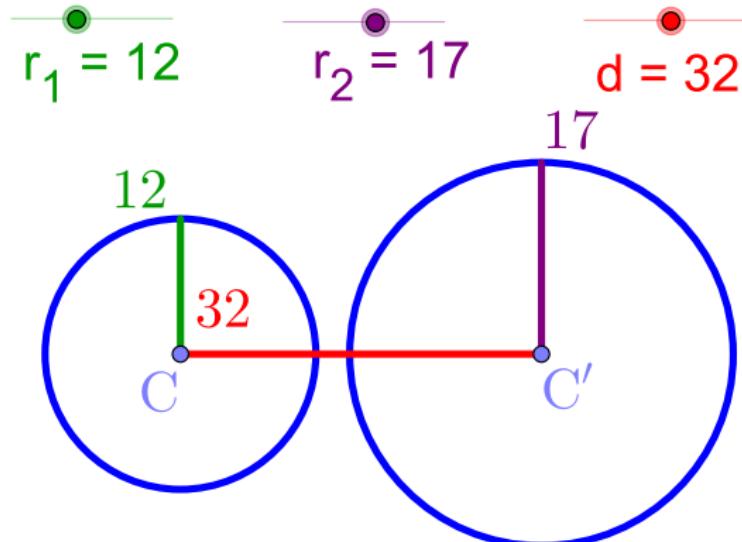
$$12 + 17 = 29$$

$$|12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End

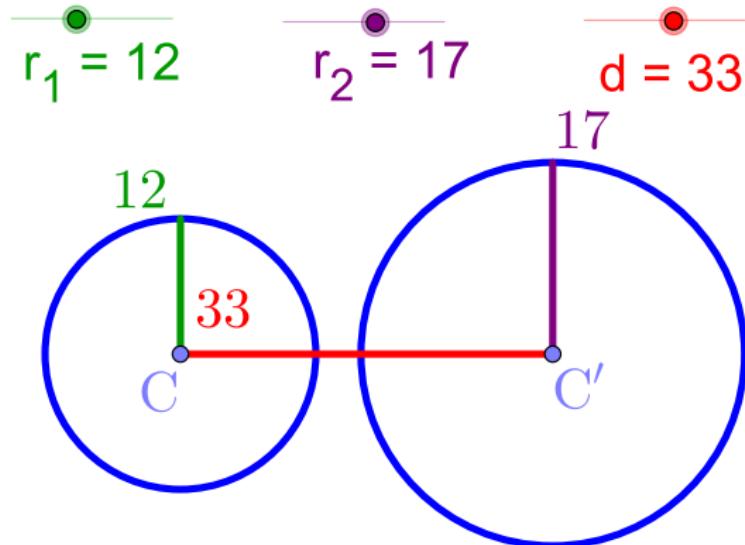


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End



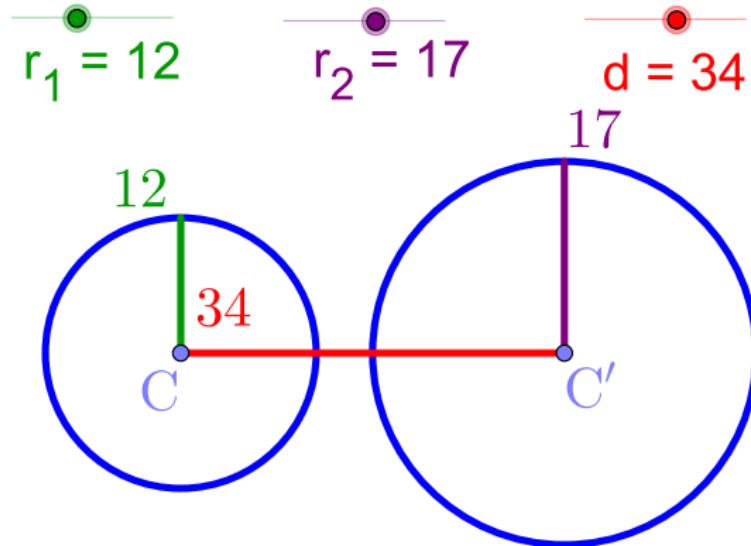
$$12 + 17 = 29$$

$$|12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End

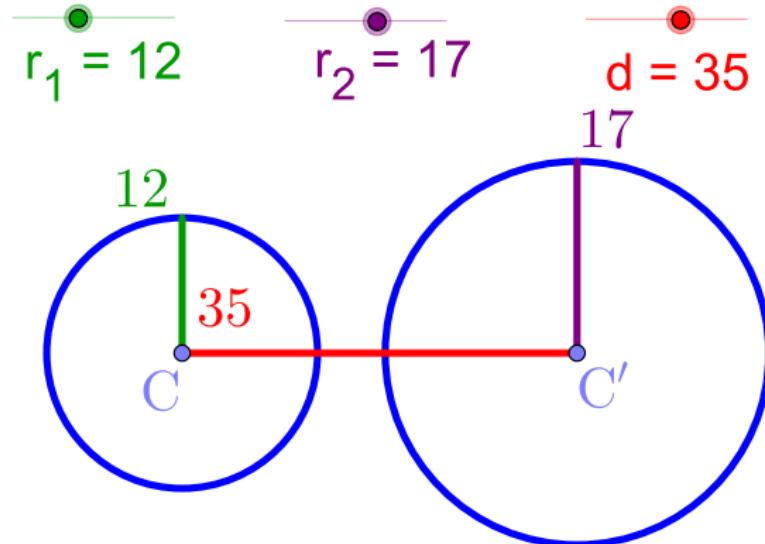


$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

▶ Start

▶ End



$$12 + 17 = 29 \quad |12 - 17| = 5$$

The Positional Relationship of Two Circles

Github:

<https://min7014.github.io/math2019111001.html>

Click or paste URL into the URL search bar,
and you can see a picture moving.