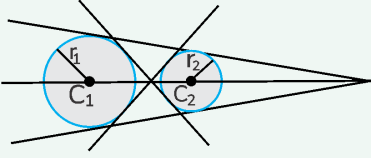
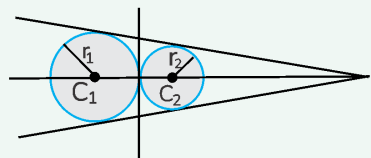
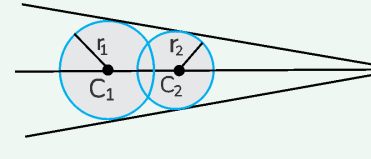
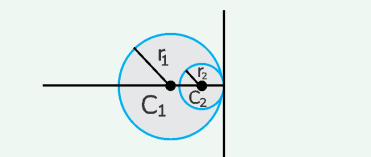
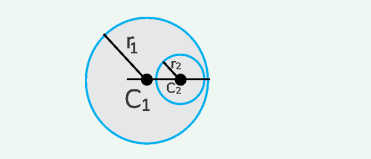


Important figures to keep in mind for 'common tangents' concept. Common tangents depends on the relative position of two circles, so it useful to keep these figures and conditions in mind.

## RELATIVE POSITION OF TWO CIRCLES

Condition	Figure	Number of Common tangents
$C_1C_2 > r_1 + r_2$		4
$C_1C_2 = r_1 + r_2$		3
$ r_1 - r_2  < C_1C_2 < r_1 + r_2$		2
$C_1C_2 =  r_1 - r_2 $		1
$C_1C_2 <  r_1 - r_2 $		0

Relative Position  
of Two Circles

## Tips and tricks:

Look for important figures in the concepts and formulas section. They have visual aspects to them, that can help you remember the situations that arise in the common tangents case. Try to draw them one or two times during revision.

### Lengths of common tangents

#### A. Internal tangents:

$$L_{IT} = \sqrt{(C_1 C_2)^2 - (r_1 + r_2)^2}$$

#### B. External tangents:

$$L_{ET} = \sqrt{(C_1 C_2)^2 - (r_1 - r_2)^2}$$

Also keep in mind that external tangents length is **more** than internal tangents.

### General tips:

1. Practice figures and conditions in your notebook.
2. Try to visualize different situations of circles for better retention.
3. Solve lots of questions from exemplar, past years and related problems section.
4. **Best tip:** PRACTICE! PRACTICE! PRACTICE!