

EGD Grade 10

Geometric Constructions

Internal common tangent to unequal circles

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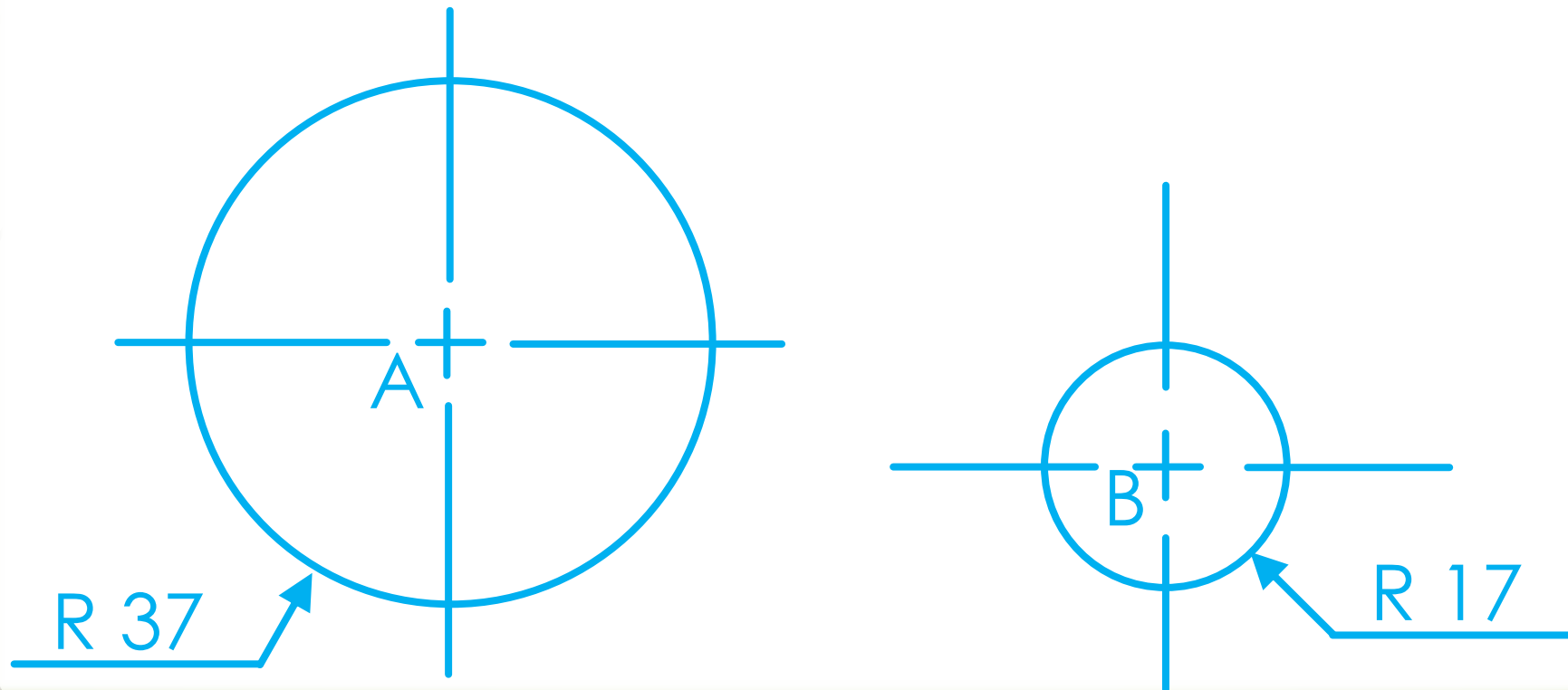
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Geometric Constructions

Question

- By means of construction, draw an internal common tangent to two unequal circles (A & B)



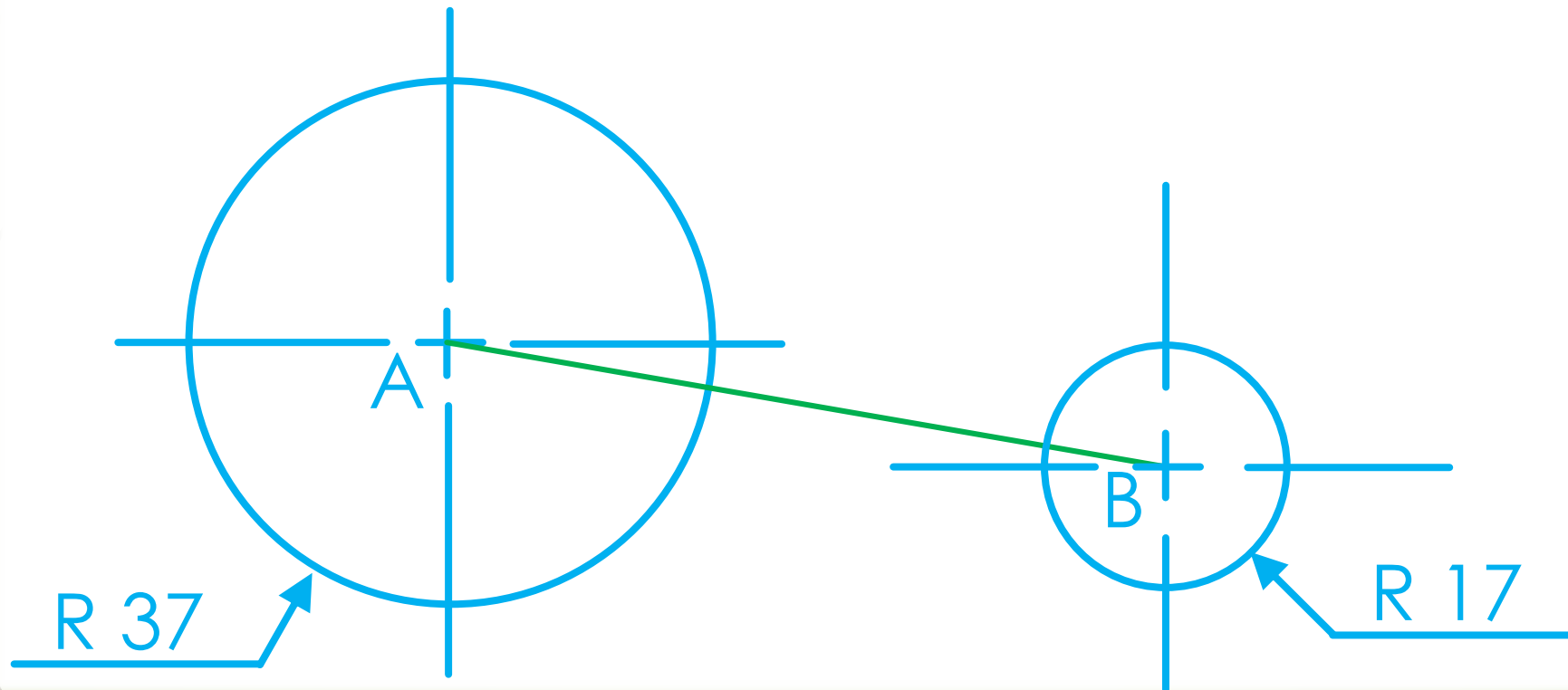
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Step 1

- **Question:** Draw an internal common tangent to two unequal circles
- Join the centre of circle A with the centre of circle B



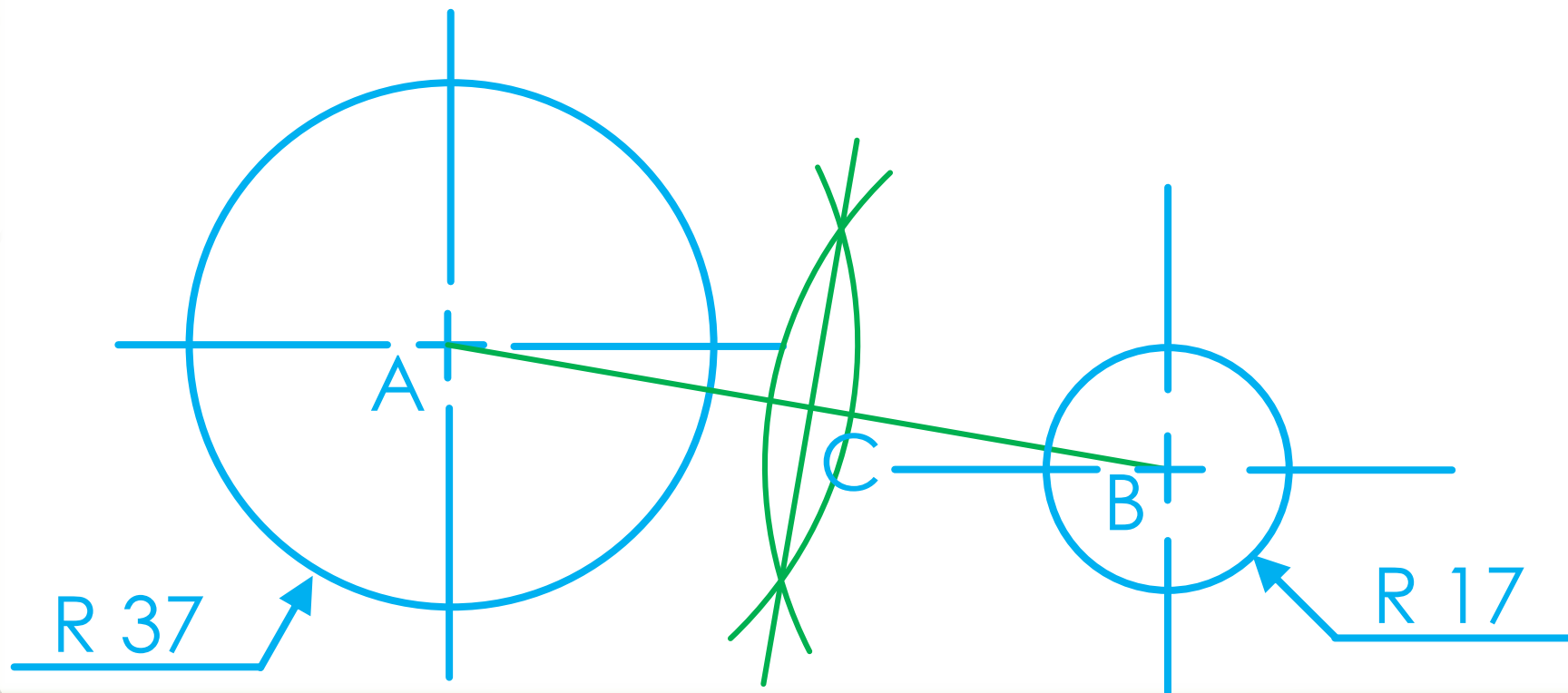
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Step 2

- **Question:** Draw an internal common tangent to two unequal circles
- Determine the bisecting point (C) of line segment AB



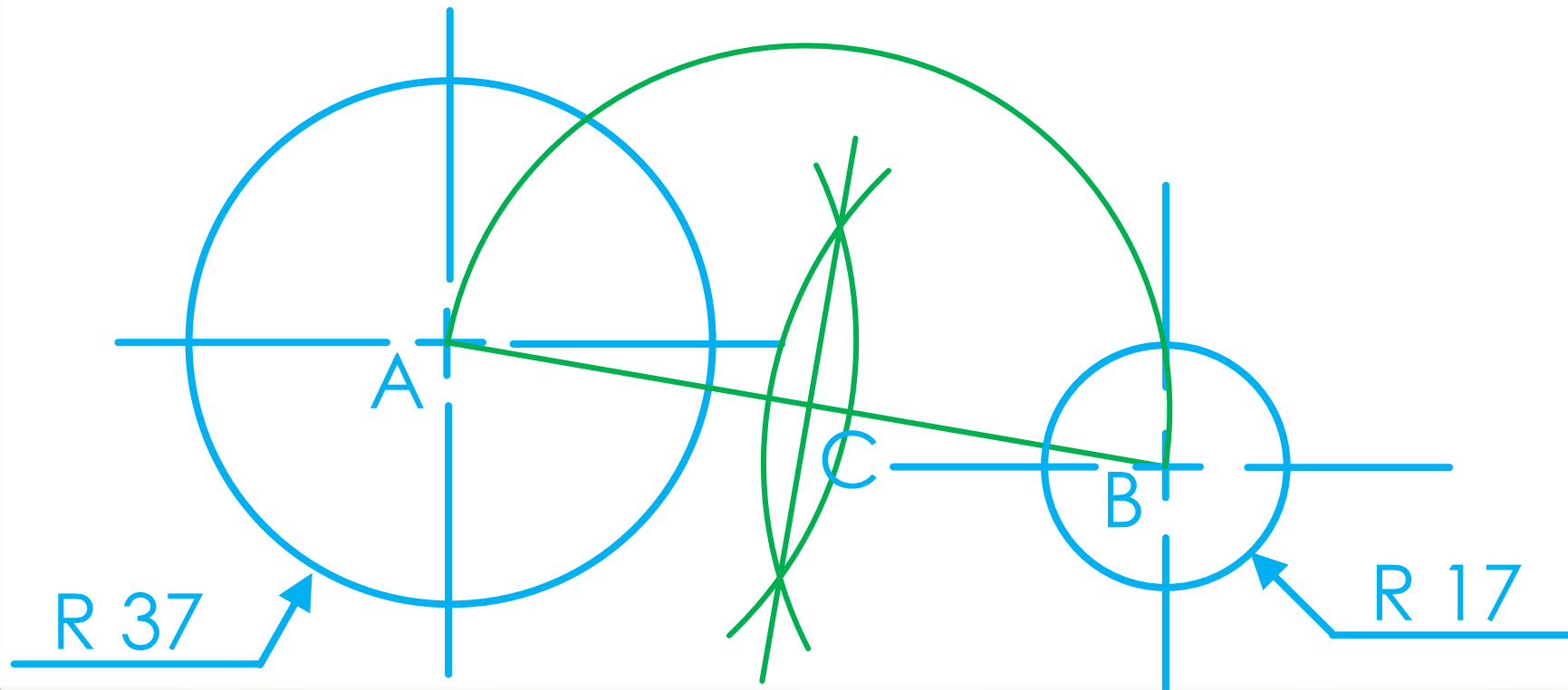
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Step 3

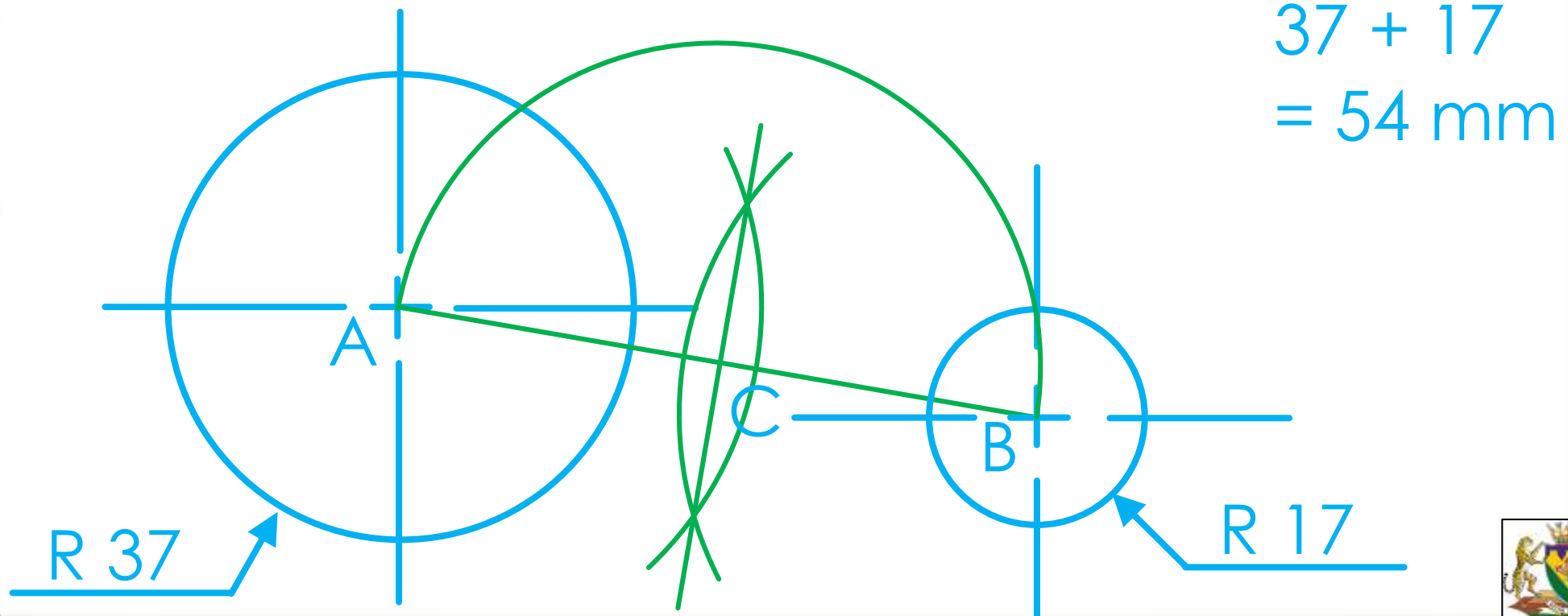
- **Question:** Draw an internal common tangent to two unequal circles
- From point C draw a semi-circle



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Step 4

- **Question:** Draw an internal common tangent to two unequal circles
- Add the radius of circle A to the radius of circle B



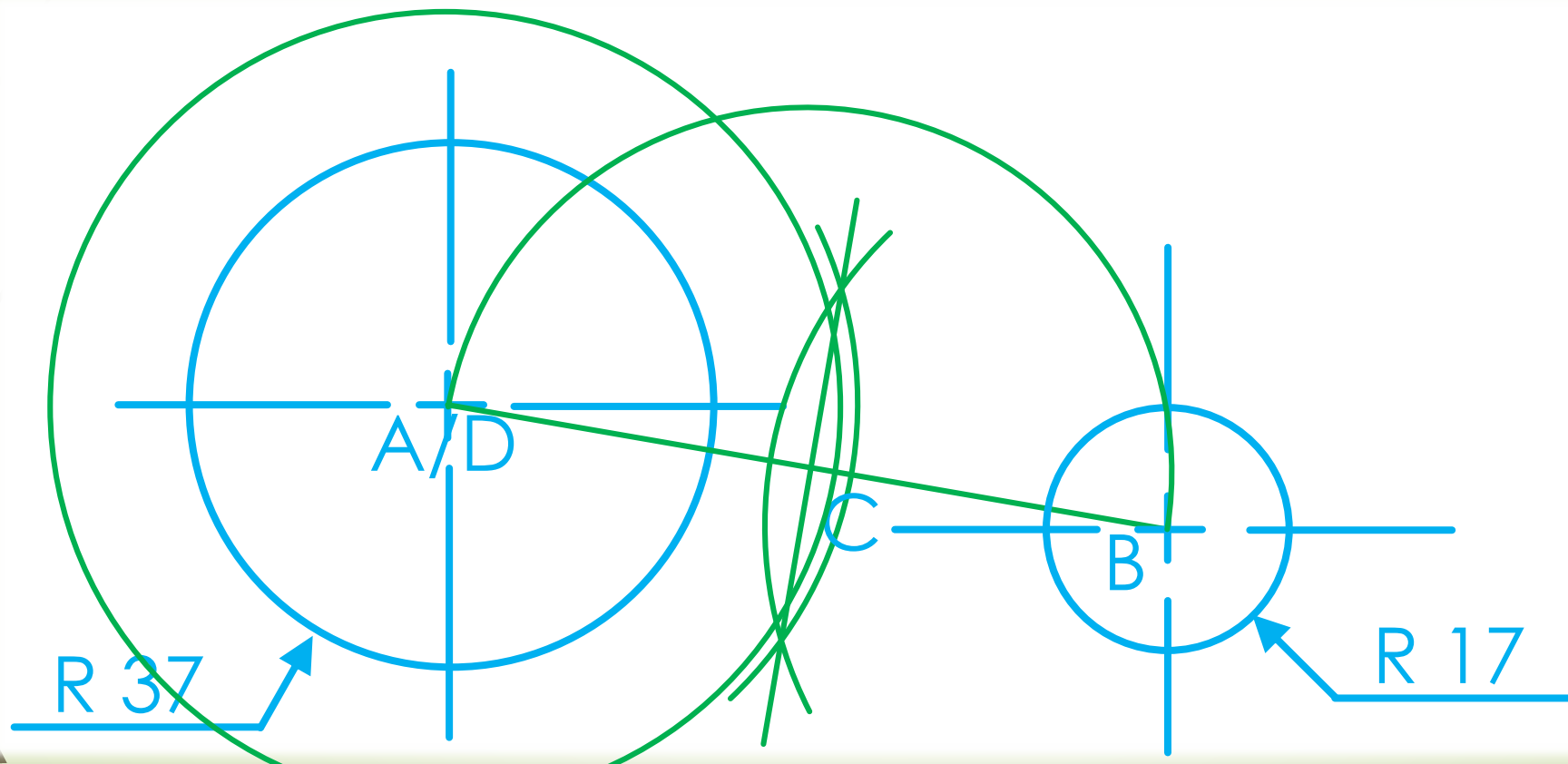
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Step 5

- **Question:** Draw an internal common tangent to two unequal circles
- From point A draw circle D with the radius of 54 mm



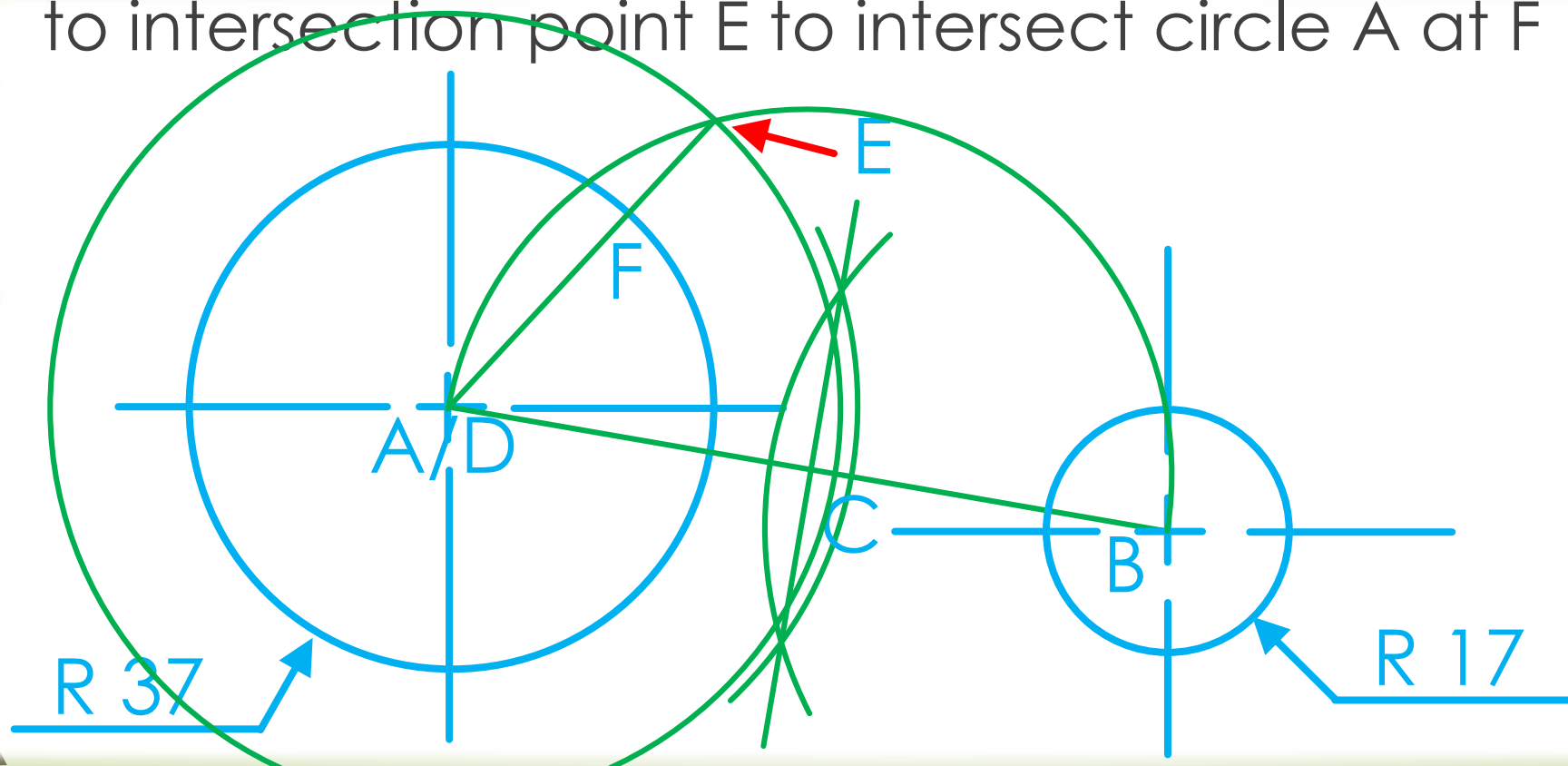
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Step 6

- **Question:** Draw an internal common tangent to two unequal circles
- Use the intersection point E and draw from point A, a line to intersection point E to intersect circle A at F



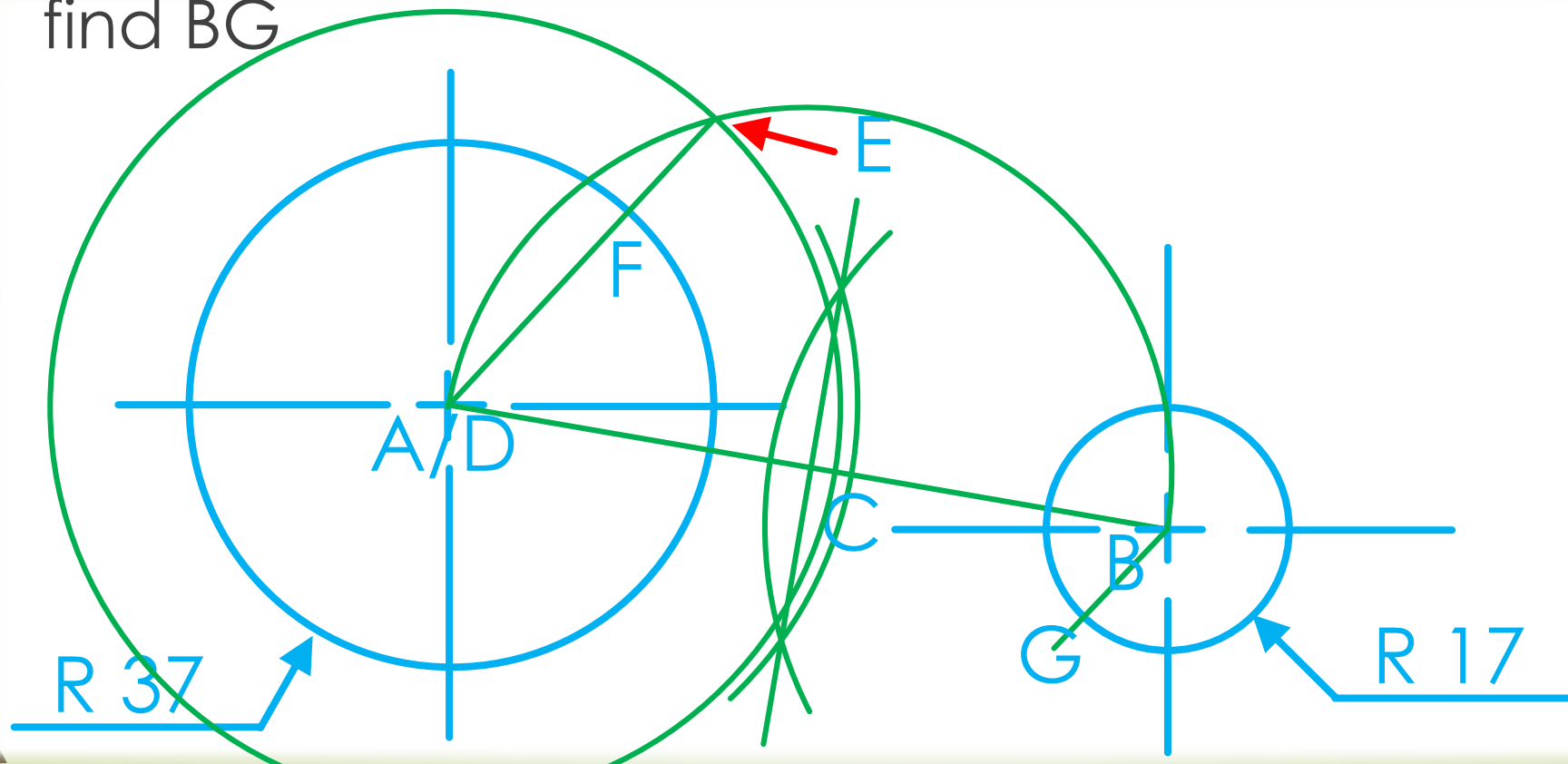
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Step 7

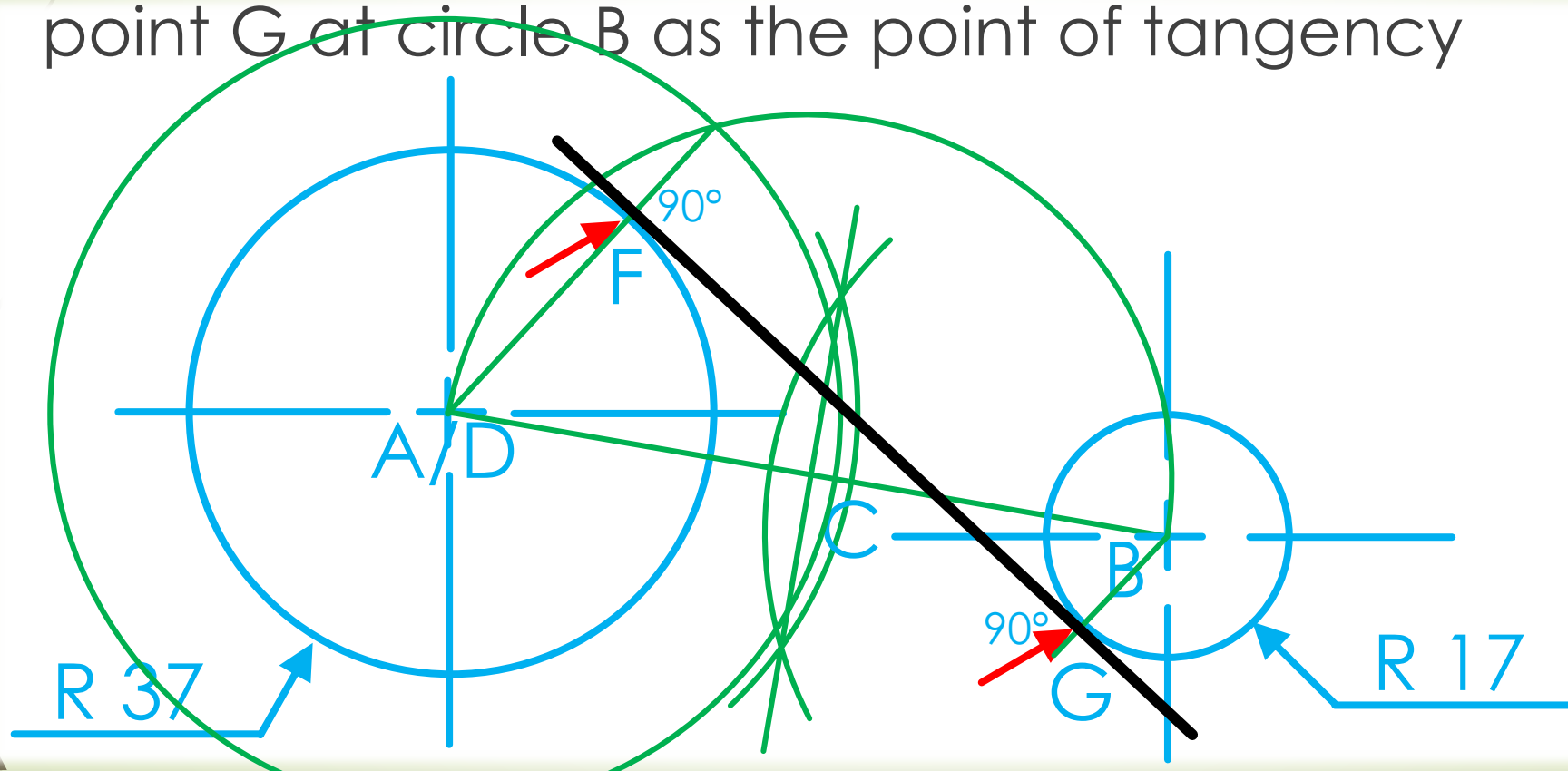
- **Question:** Draw an internal common tangent to two unequal circles
- From point B draw a line parallel to line segment AFE to find BG



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Step 8

- **Question:** Draw an internal common tangent to two unequal circles
- Use the intersection point (F) at circle A and intersection point G at circle B as the point of tangency



Geometric Constructions

Task 1.6.3

- On the prepared A3 drawing sheet (Task 1.5.3), draw a circle (A) with a radius of 40 mm and circle (B) with a radius of 20 mm at 30° and downwards 100 mm to the right of point A.
- **Question: Draw an internal common tangent to two unequal circles.**
- Show all construction lines.
- Name this task 1.6.3

