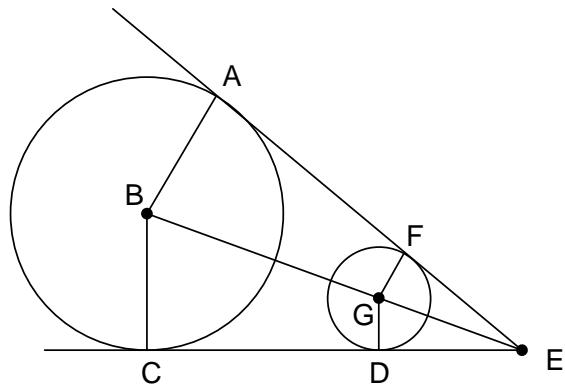


Given: EA and EC are common external tangents of G and B. DC equals 44, GF equals 7 and EG equals 25. What is the measure of AE?



If EA and EC are common external tangents of G and B, then

- 1). $\angle BCE = \angle BAE = \angle GDE = \angle GFE = 90^\circ$
- 2). AE=CE and ED=EF

Pythagorean theorem for ΔFGE

$$EG^2 = GF^2 + EF^2, \text{ so}$$

$$EF = \sqrt{EG^2 - GF^2} = \sqrt{25^2 - 7^2} = 24, \text{ so } DE=24$$

Hence CE=CD+DE=44+24=68, so AE=68

Answer: AE=68