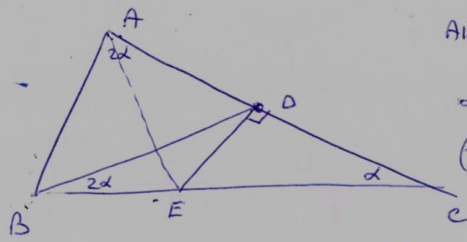


3.87
4



AEC \perp ED \perp AC \perp ED \perp AC
 in $\triangle AED$ \perp AC

$$\alpha = \angle CAB \leftarrow \angle CAE = \alpha \leftarrow$$

$$\text{(Hypotenuse)} \angle AEB = 2\alpha = \angle ABC \rightarrow$$

$$\angle EAB = \alpha = \angle C$$

$$\Rightarrow \triangle BDC \sim \triangle EBA \text{ (S.S)}$$

From \rightarrow From \perp AC \perp ED \perp AC

$$\frac{BD}{EB} = \frac{DA}{AB} \leftarrow \frac{BA}{EB} = \frac{DE}{BA} = \frac{BC}{EA}$$

$$\frac{AB}{AC} = \frac{BE}{EC}$$

$$\frac{BD}{AD} = \frac{EB}{BA}$$

$$\frac{BD}{EB} = \frac{AD}{AB} \leftarrow \frac{BD}{EB} = \frac{DC}{BA}$$

$$DC = AD$$

$$\frac{BD}{AD} = \frac{EB}{AB}$$

From \rightarrow From \perp AC \perp ED \perp AC

$$\angle A = 2\alpha = \angle DBE \text{ (Opp)}$$

$$\text{(S.S)} \triangle BED \sim \triangle ABO \leftarrow$$

$$\angle ADB = \angle BDE \text{ (Opp)} \rightarrow$$

$$\downarrow \quad \downarrow$$

$$3\alpha = 90 - 3\alpha$$

$$\boxed{\alpha = 15^\circ}$$