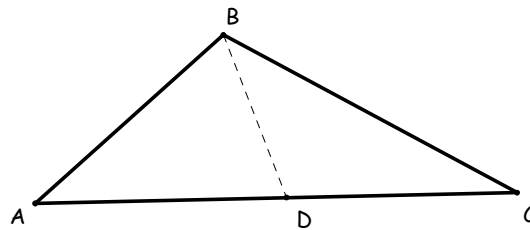
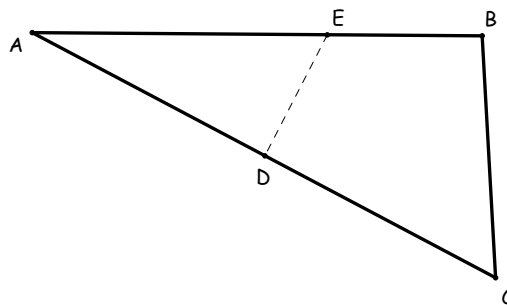


Medians/Altitudes/Angle bisectors/ \perp bisectors**Medians**

1. If \overline{BD} is a median of $\triangle ABC$ and $AD = 27$, find AC .
2. If \overline{BD} is a median of $\triangle ABC$ and $AC = 110$, find DC .
3. If \overline{BD} is a median of $\triangle ABC$ and $AC = 48$ and $DC = n + 3$, find n .
4. If \overline{BD} is a median of $\triangle ABC$ and $AD = 3p - 15$ and $DC = 2p$, find AC .

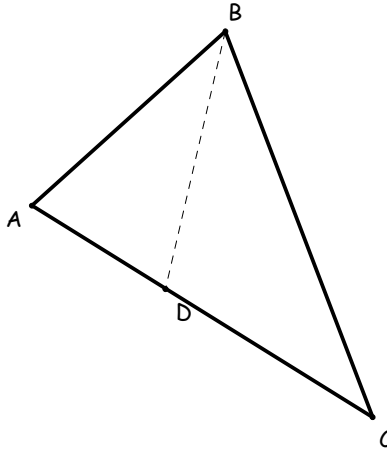
 **\perp bisectors**

5. If \overline{DE} is the \perp bisector of \overline{AC} and $m\angle EDC = 2k + 18$, find k .
6. If \overline{DE} is the \perp bisector of \overline{AC} and $m\angle AED = 50^\circ$, find $m\angle A$.
7. If \overline{DE} is the \perp bisector of \overline{AC} and $DC = 17$, find AC .



Angle bisectors

8. If \overline{BD} bisects $\angle ABC$ and $m\angle ABD = 32^\circ$, find $m\angle ABC$.
9. If \overline{BD} bisects $\angle ABC$ and $m\angle ABC = 5x$, $m\angle ABD = 2x + 15$, find x .
10. If \overline{BD} bisects $\angle ABC$ and $m\angle CBD = 3w$ and $m\angle ABD = w + 44$, find w .



Altitudes

11. If \overline{BD} is an altitude of $\triangle ABC$ and $m\angle A = 82^\circ$, find $m\angle ABD$.
12. If \overline{BD} is an altitude of $\triangle ABC$ and $m\angle BDC = 102 + 3p$, find p .
- **13. If \overline{BD} is an altitude of $\triangle ABC$ and $m\angle BDA = 55 + d$, and $m\angle A = 2d$, find $m\angle ABD$.

