Common Core Geometry Proof – Triangles_3

Midsegment Theorem

Theorem: If a segment joins the midpoints of two sides of a triangle, then the segment is parallel to the third side and half the length.
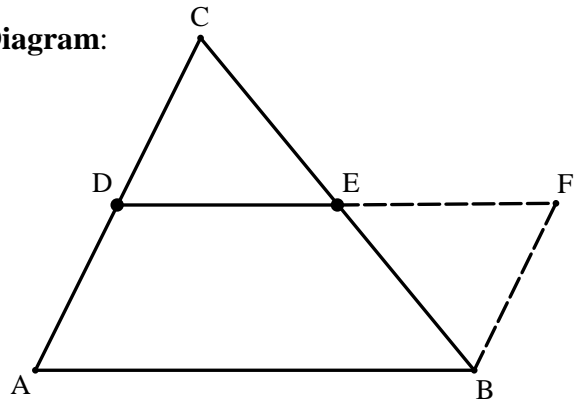
Given: $\overline{DE}$ where D is the midpoint of $\overline{AC}$ and E is the midpoint of $\overline{CB}$

Diagram:

Construction: Construct $\overline{DF}$ where E is the midpoint, and draw $\overline{BF}$

Prove: $\overline{DE} \parallel \overline{AB}$

$$DE = \frac{1}{2}AB$$

Statements	Reasons