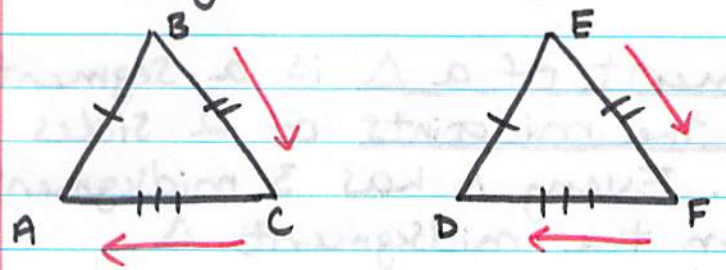
Winston 9/20/17

Congruent Δ's Intro



Triangle Congruence Statement:

$\Delta BCA \cong \Delta EFD$

*order of the 1st Δ doesn't matter, but the 2nd has to follow the same order as the 1st. ORDER MATTERS!

6 ≅ Parts of a Δ: 3 ∠'s & 3 sides

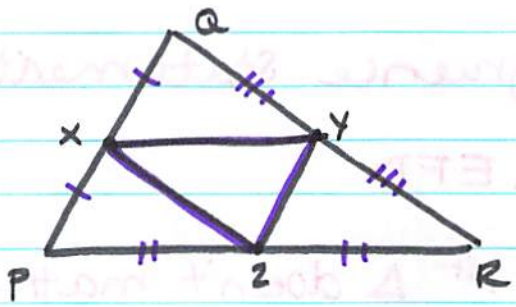
1. $\angle B \cong \angle E$
2. $\angle C \cong \angle F$
3. $\angle A \cong \angle D$
4. $\overline{BC} \cong \overline{EF}$
5. $\overline{CA} \cong \overline{FD}$
6. $\overline{AB} \cong \overline{DE}$

1–3 → ∠'s

4–6 → sides

Triangle midsegment Theorem

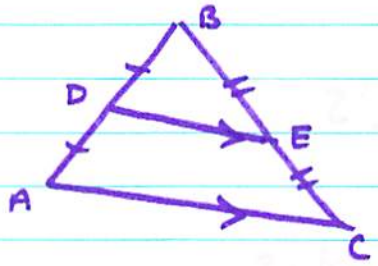
*a <u>midsegment of a Δ</u> is a segment that <u>joins the midpoints</u> of 2 sides of the Δ. Every Δ has 3 midsegments, which form the midsegment Δ.



midsegments: $\overline{XY}$, $\overline{YZ}$, $\overline{ZX}$

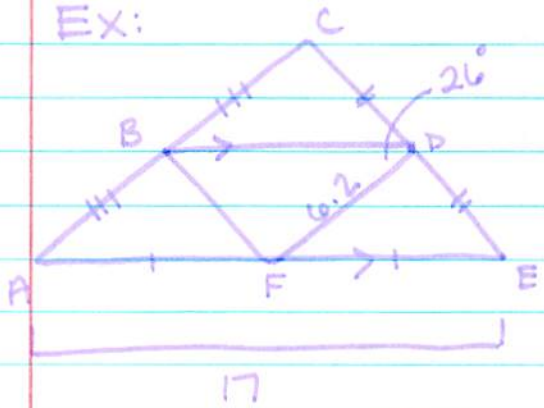
midsegment Δ: ΔXYZ

Triangle midsegment Theorem:
A midsegment of a Δ is parallel to a side of the Δ, & its length is 1/2 the length of that side.



- DE ∥ AC
- $DE = \frac{1}{2}AC$

Ex:



m∠CBD = 26° (Alt int ∠)

BD = 8.5

AC = 12.4