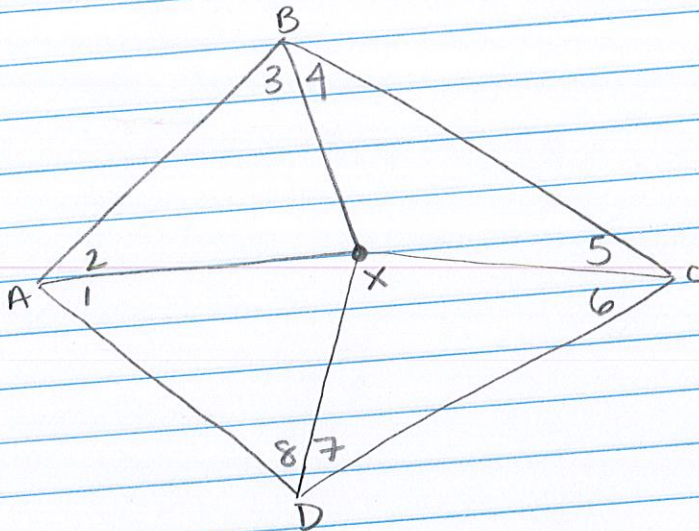


HW 11, #2

Namaluba Malawo



Given: $\angle 1 = \angle 2$, $\angle 3 = \angle 4$, $\angle 5 = \angle 6$, $\angle 7 = \angle 8$

NTS: $AB + CD = BC + AD$

• Use thm 4 to prove $\angle 3 + \angle 4 = \angle 8 + \angle 7$

• By def. $\triangle ABC \sim \triangle ADC$

• By BF 4, $\frac{AB}{AD} = \frac{AC}{AC} = \frac{BC}{DC}$

• Therefore, $AB = AD$, $BC = DC$

• By algebra $AB + CD = AD + BC$

QED