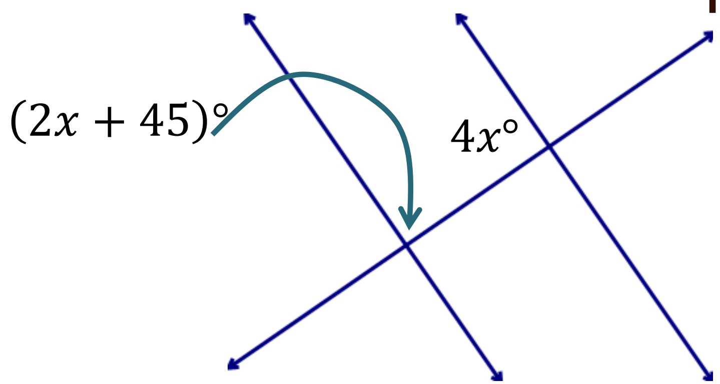
Wednesday, October 24, 2012

TISK Problems

1) Simplify: $-4x(3x-8)$
2) Factor: $3x^3-9x^2+6x$
3) Find the value of *x* that makes the lines parallel.

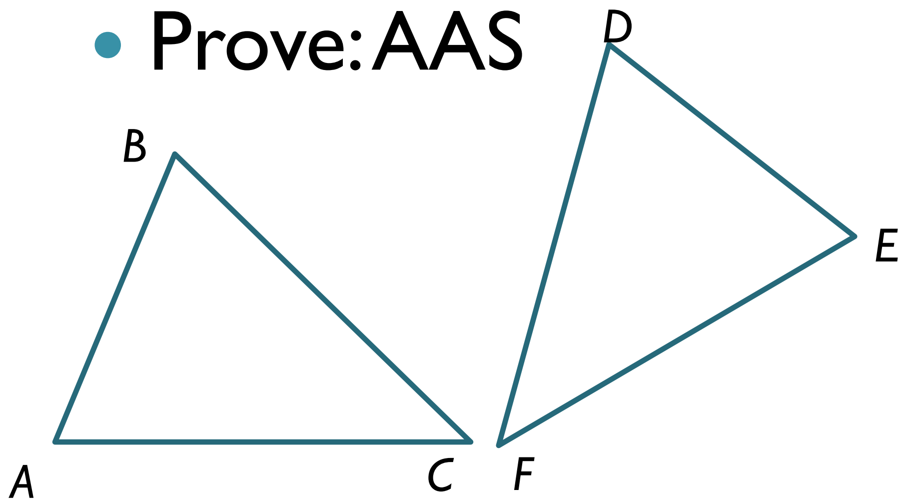


We will have 2 Mental Math Questions today.

Homework: p. 219 #30-34 even and 33

§4-5 More Congruent Triangles

- Prove: AAS



- Prove: SSA

Given: $\angle A \cong \angle D, \angle B \cong \angle E, \overline{BC} \cong \overline{EF}$

Prove: $\Delta ABC \cong \Delta DEF$

Given: $\overline{BC} \cong \overline{EF}, \overline{AB} \cong \overline{DE}, \angle C \cong \angle F$

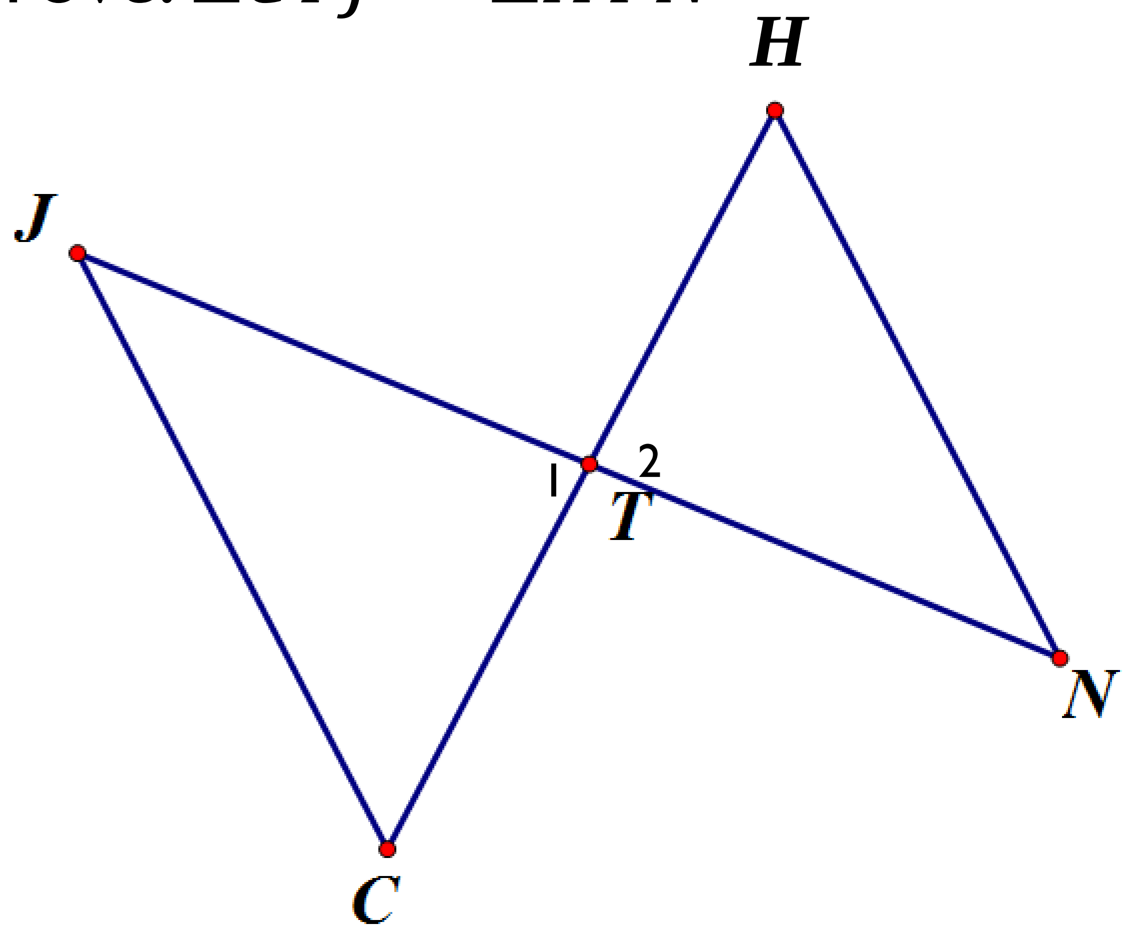
Prove: $\Delta ABC \cong \Delta DEF$

Ways to Prove Triangles Congruent

- Def. of Congruent Triangles
  - CPCTC: Corresponding Parts of Congruent Triangles are Congruent
  - If corresponding parts are congruent, triangles are congruent
- SSS Postulate
- SAS Postulate
- ASA Postulate
- AAS Theorem
  - If two angles and a non-included side of one triangle are congruent to two angles and a non-included side of another triangle, then the triangles are congruent.

Example

- Given: $\overline{JC} \parallel \overline{NH}$ and $\overline{CH}$ bisects $\overline{JN}$
- Prove: $\Delta CTJ \cong \Delta HTN$

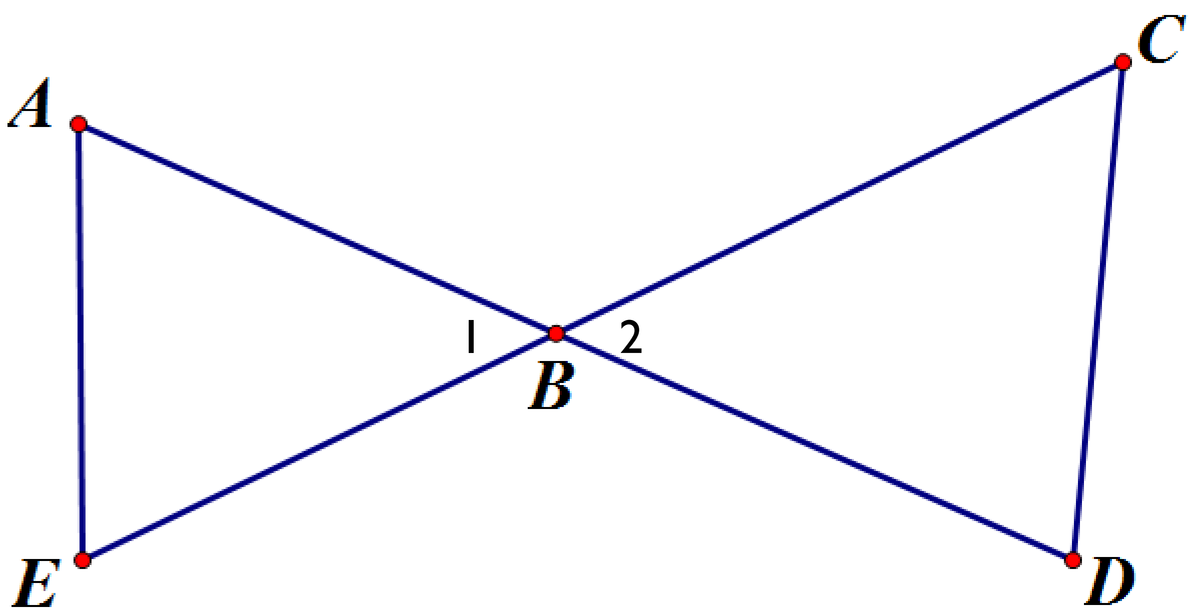


Proof

Statement	Reasons
1) $\overline{JC} \parallel \overline{NH}$, $\overline{CH}$ bisects $\overline{JN}$	1) Given
2) $\overline{JT} \cong \overline{TN}$	2) Def. Segment Bisector: If a segment is bisected then it is divided into two congruent segments.
3) $\angle 1$ and $\angle 2$ are vertical $\angle$s	3) Assumed
4) $\angle 1 \cong \angle 2$	4) Vertical $\angle$ Th.: If two $\angle$s are vertical $\angle$s $\Rightarrow$ $\angle$s are $\cong$
5) $\Delta CTJ \cong \Delta HTN$	5) AAS Th.: If two $\angle s$ and a non-included side of one Δ are $\cong$ to two corresponding $\angle s$ and a non-included side of another Δ $\Rightarrow$ Δs are $\cong$.

Example

- Given: $\angle E \cong \angle C$ and $\overline{AE} \cong \overline{DC}$
- Prove: $\overline{CB} \cong \overline{EB}$



Proof

Statement	Reason
1) $\angle E \cong \angle C$ and $\overline{AE} \cong \overline{DC}$	1) Given
2) $\angle 1$ and $\angle 2$ are vertical $\angle$s	2) Assumed
3) $\angle 1 \cong \angle 2$	3) Vertical $\angle$ Th.: If two $\angle$s are vertical $\angle$s $\Rightarrow$ $\angle$s are $\cong$
4) $\Delta EBA \cong \Delta CBD$	4) AAS Theorem: If two $\angle$s and a non-included side of one Δ are $\cong$ to two corresponding $\angle$s and a non-included side of another Δ $\Rightarrow$ Δs are $\cong$.
5) $\overline{CB} \cong \overline{EB}$	5) CPCTC: Corresponding Parts of $\cong$ Δs are $\cong$