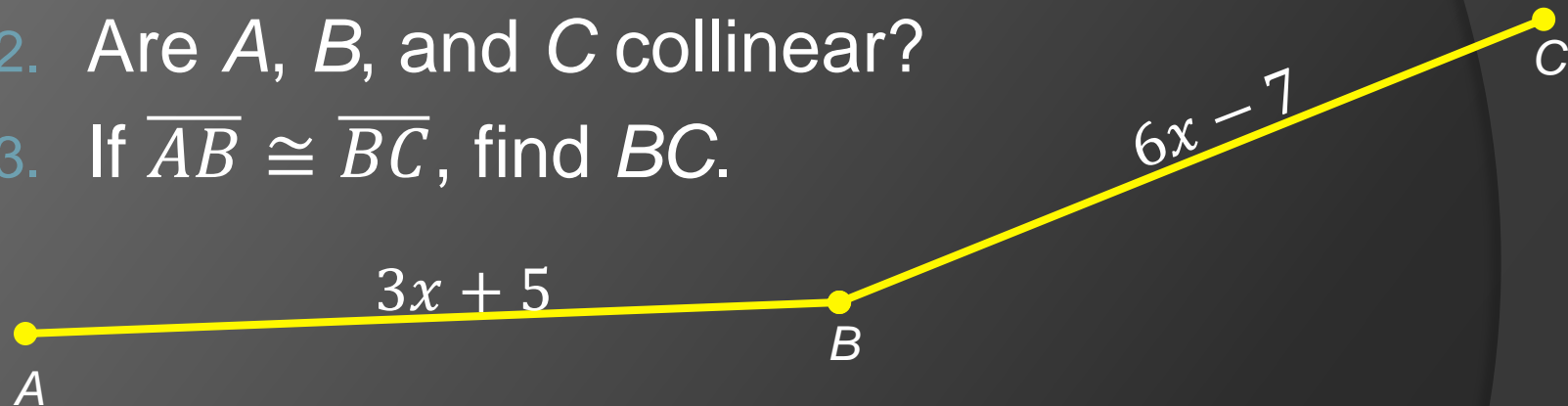# TUESDAY, AUGUST 28, 2012

TISK Problems

1. Factor completely $-5x^2 + x^3 + 6x$
2. Are *A*, *B*, and *C* collinear?
3. If $\overline{AB} \cong \overline{BC}$, find *BC*.

$3x + 5$

$6x - 7$

A

B

C

Homework: p. 104-105 #22-30 even, 33 & 34

We will have 3 Mental Math questions.

Homework Check

24) a. Given
    b. × Prop. of =
    c. ÷ Prop. of = (or × Prop. of =)

25) a. Given
    b. × Prop. of =
    c. Distributive Prop.
    d. − Prop. of =
    e. ÷ Prop. of =

26) a. Given
    b. Segment Addition Postulate
    c. Substitution Property of Equality
    d. Given
    e. − Prop. of =

27) a. $m\angle TUV = 90, m\angle XWV = 90, m\angle 1 = m\angle 3$
    b. Substitution Prop. of =
    c. Angle Addition Postulate
    d. $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 4$
    e. Substitution Prop. Of =
    f. $m\angle 2 = m\angle 4$

§2.5 Verifying Segment Relationships

THEOREMS

Properties of Segment Congruence

Segment congruence is **reflexive**, **symmetric**, and **transitive**.
Here are some examples.

REFLEXIVE For any segment $\overline{AB}$, $\overline{AB} \cong \overline{AB}$.
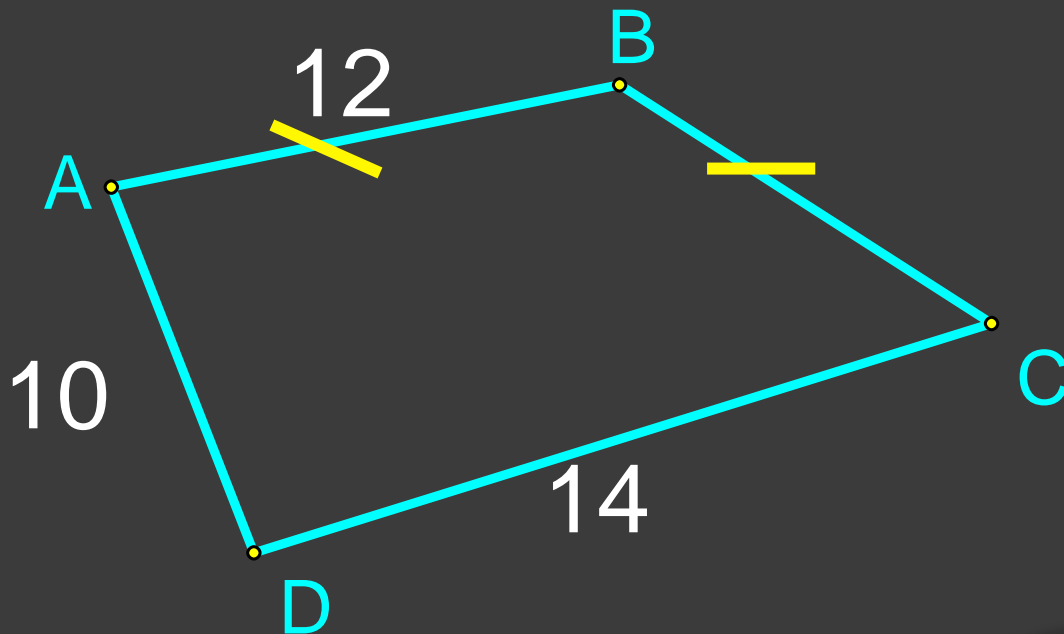
SYMMETRIC If $\overline{AB} \cong \overline{CD}$, then $\overline{CD} \cong \overline{AB}$.

Transitive If $\overline{AB} \cong \overline{CD}$ and $\overline{CD} \cong \overline{EF}$, then $\overline{AB} \cong \overline{EF}$.

Marking Pictures

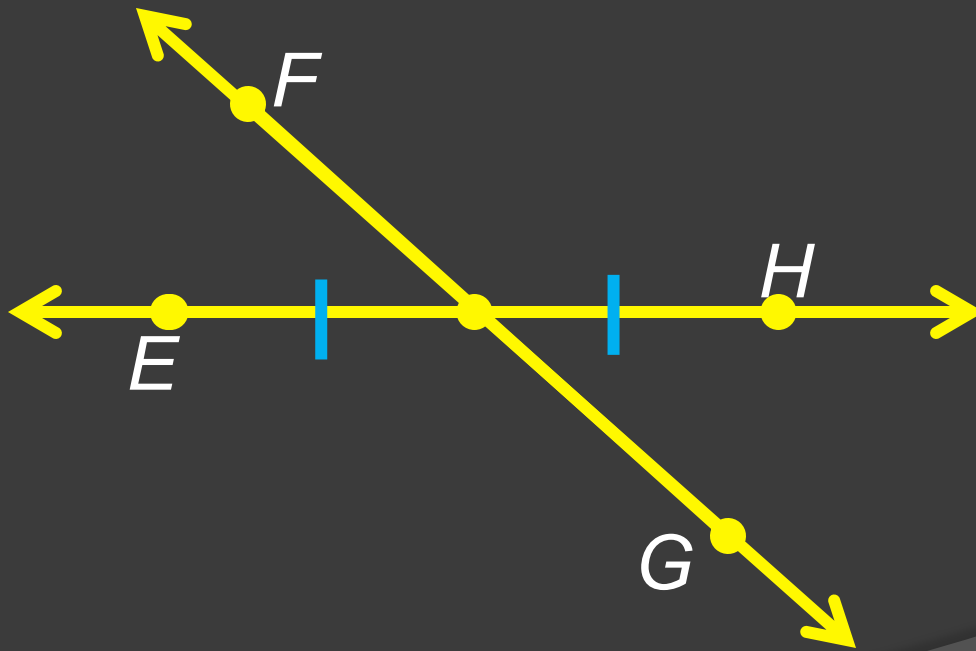- Mark the diagram with the given information.

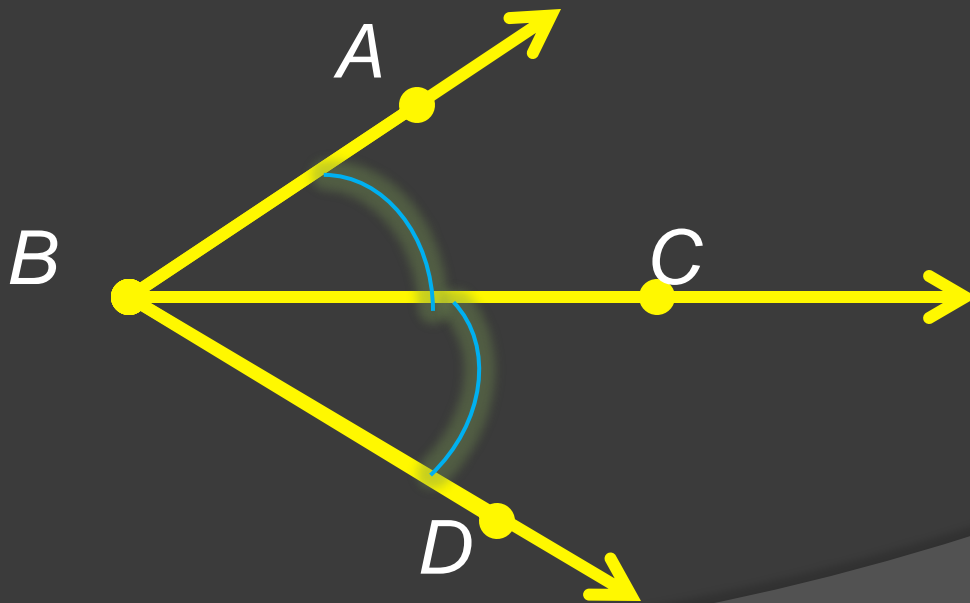$AB = 12, BC = 12, AD = 10, DC = 14$

Marking Pictures

- Mark the diagram with the given information.

$\overleftrightarrow{FG}$ bisects $\overline{EH}$

Marking Pictures

- Mark the diagram with the given information.
  - $m\angle ABC = m\angle CBD$

Prove that $AC = BD$ given that $AB = CD$.

A   B   C   D

Statement	Reason
$AB = CD$	Given
$AB + BC = CD + BC$	+ Prop of =
$AC = AB + BC$	Segment Addition Postulate
$BD = BC + CD$	Segment Addition Postulate
$AC = BC + CD$	Substitution Prop of =
$AC = BD$	Transitive Prop of =

Given: $EF = GH$
Prove: $\overline{EG} \cong \overline{FH}$

E　　　F　　　　　　　　　　　　　　G　　H

Statements	Reasons
1) $EF = GH$	1) Given
2) $EF + FG = GH + FG$	2) + prop of =
3) $EG = EF + FG$, $FH = GH + FG$	3) Segment + Post.
4) $EG = FH$	4) Transitive
5) $\overline{EG} \cong \overline{FH}$	5) Def of $\cong$

Homework

- p. 104-105 #22-30 even, 33 & 34

- Due to some strange scheduling this week…. We will do our Problem-Solving day tomorrow.
  - Your write-ups won't be due until Sept. 7.