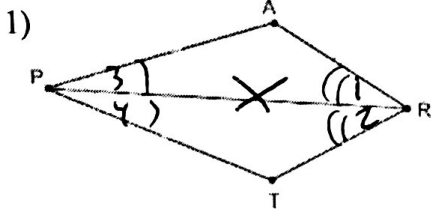


Name: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Class: \_\_\_\_\_

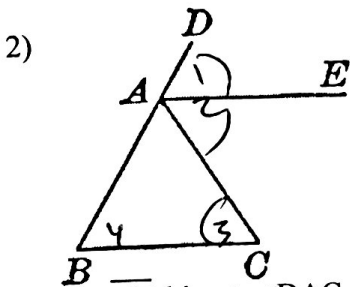
Geometry  
 Unit 7  
 HW 7-4

For each create a "proof" where you have 5 steps or answer the question in parenthesis.  
 You should have the givens work together if at all possible.



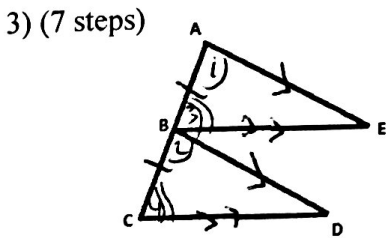
Given:  $\overline{PR}$  bisects  $\angle APT$   
 $\overline{PR}$  bisects  $\angle ART$

$\overline{PR}$  bisects  $\angle APT \rightarrow$  given  
 $\angle 3 \cong \angle 4 \rightarrow$  bisector creates 2  $\cong$   $\angle$ 's  
 $\overline{PR}$  bisects  $\angle ART \rightarrow$  given  
 $\angle 1 \cong \angle 2 \rightarrow$  bisector creates 2  $\cong$  parts  
 $\overline{PR} \cong \overline{PR} \rightarrow$  anything  $\cong$  to itself  
 (will let us prove  $\Delta s \cong$ )



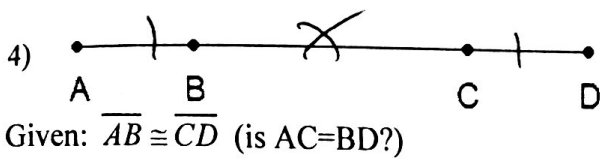
Given:  $\overline{AE}$  bisects  $\angle DAC$   
 $\overline{AE} \parallel \overline{BC}$

$\overline{AE}$  bisects  $\angle DAC \rightarrow$  given  
 $\angle 1 \cong \angle 2 \rightarrow$  bisector creates 2  $\cong$  parts  
 $\overline{AE} \parallel \overline{BC} \rightarrow$  given  
 $\angle 2 \cong \angle 3 \rightarrow$  alt int  $\angle$ 's  $\cong$  when lines  $\parallel$   
 $\angle 1 \cong \angle 3 \rightarrow$  Both  $\cong \angle 2$

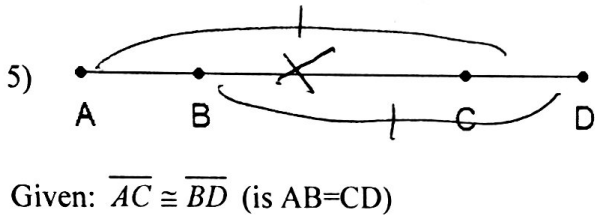


Given:  $\overline{AC}$  has midpoint B  
 $\overline{AE} \parallel \overline{BD}$   
 $\overline{BE} \parallel \overline{CD}$

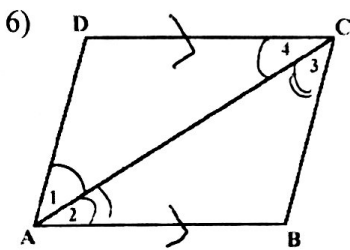
$\overline{AC}$  has mdpt B  $\rightarrow$  given  
 $\overline{AB} \cong \overline{BC} \rightarrow$  mdpt creates 2  $\cong$  parts  
 $\overline{AE} \parallel \overline{BD} \rightarrow$  given  
 $\angle 1 \cong \angle 2 \rightarrow$  corr  $\angle$ 's  $\cong$  when lines  $\parallel$   
 $\overline{BE} \parallel \overline{CD} \rightarrow$  given  
 $\angle 3 \cong \angle 4 \rightarrow$  corr  $\angle$ 's  $\cong$  when lines  $\parallel$   
 $\triangle ABE \cong \triangle BCD \rightarrow$  ASA



$\overline{AB} \cong \overline{CD} \rightarrow$  given  
 $\overline{BC} \cong \overline{BC} \rightarrow$  any thing  $\cong$  to itself  
 $\overline{AC} \cong \overline{BD} \rightarrow$  addition property

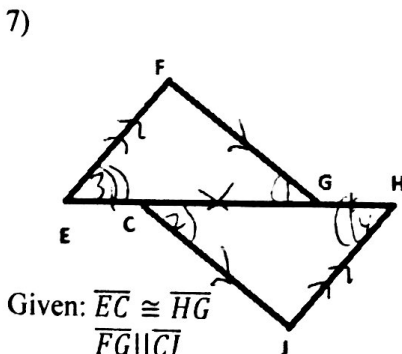


$\overline{AC} \cong \overline{BD} \rightarrow$  given  
 $\overline{BC} \cong \overline{BC} \rightarrow$  any thing  $\cong$  to itself  
 $\overline{AB} \cong \overline{CD} \rightarrow$  subtraction prop



Given:  $\triangle ADC$  is isosceles with  $D$  as vertex  
 $\triangle ABC$  is isosceles with  $B$  as vertex  
 $\overline{DC} \parallel \overline{AB}$   
 (7 Step proof using angles)

$\triangle ADC$  is isos w/  $\angle D$  as vertex  $\rightarrow$  given  
 $\angle 1 \cong \angle 4 \rightarrow$  isos  $\Delta$  has  $\cong$  base  $\angle$ 's  
 $\triangle ABC$  is isos w/  $\angle B$  as vertex  $\rightarrow$  given  
 $\angle 2 \cong \angle 3 \rightarrow$  isos  $\Delta$  has  $\cong$  base  $\angle$ 's  
 $\overline{DC} \parallel \overline{AB} \rightarrow$  given  
 $\angle 1 \cong \angle 2 \cong \angle 3 \cong \angle 4 \rightarrow$  All are  $\cong$  to  $\angle 4$  or  $\angle 2$  which are  $\cong$   
 $\angle 4 \cong \angle 2 \rightarrow$  alt int  $\angle$ 's  $\cong$  when lines  $\parallel$



Given:  $\overline{EC} \cong \overline{HG}$   
 $\overline{FG} \parallel \overline{CJ}$   
 $\overline{EF} \parallel \overline{JH}$   
 (7 steps total, no combinations)

$\overline{EC} \cong \overline{HG} \rightarrow$  given  
 $\overline{CG} \cong \overline{CG} \rightarrow$  anything  $\cong$  to itself  
 $\overline{EG} \cong \overline{CH} \rightarrow$  addition prop  
 $\overline{FG} \parallel \overline{CJ} \rightarrow$  given  
 $\angle 1 \cong \angle 2 \rightarrow$  alt int  $\angle$ 's  $\cong$  when lines  $\parallel$   
 $\overline{EF} \parallel \overline{JH} \rightarrow$  given  
 $\angle 3 \cong \angle 4 \rightarrow$  alt int  $\angle$ 's  $\cong$  when lines  $\parallel$