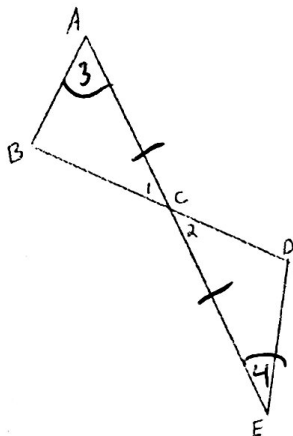


Name: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Class: \_\_\_\_\_

Geometry  
 Unit 7  
 HW 7-3

In each diagram make each given tell you at least one new piece of information with a reason.

1)



Given:  $\overline{AB} \parallel \overline{DE}$   
 $\overline{BD}$  bisects  $\overline{AE}$

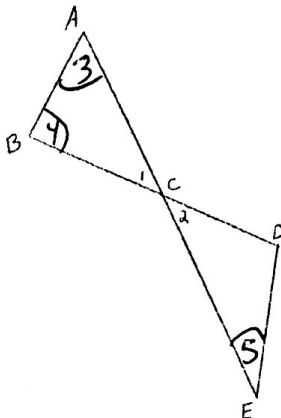
$\overline{AB} \parallel \overline{DE} \rightarrow$  given

$\angle 3 \cong \angle 4 \rightarrow$  alt int  $\angle$ 's  $\cong$  when lines  $\parallel$

$\overline{AC} \cong \overline{CE} \rightarrow$  bisector creates 2  $\cong$  parts

$\overline{BD}$  bisects  $\overline{AE} \rightarrow$  given

2)



Given:  $\triangle ABC$  is isosceles with C as the vertex  
 $\overline{AB} \parallel \overline{DE}$

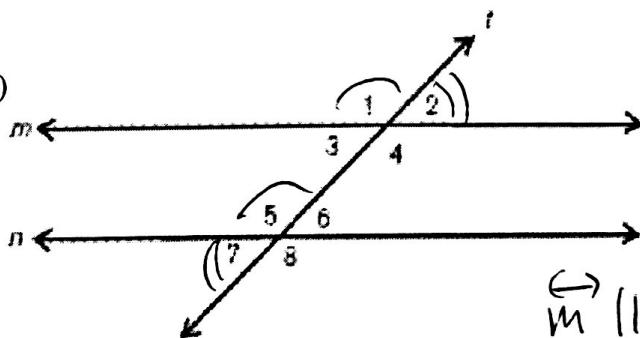
$\triangle ABC$  is isos w/  $\angle C$  as vertex  $\rightarrow$  given

$\angle 3 \cong \angle 4 \rightarrow$  base  $\angle$ 's of isos  $\triangle$  are  $\cong$

$\overline{AB} \parallel \overline{DE} \rightarrow$  given

$\angle 3 \cong \angle 5 \rightarrow$  alt int  $\angle$ 's  $\cong$  when lines  $\parallel$

3)



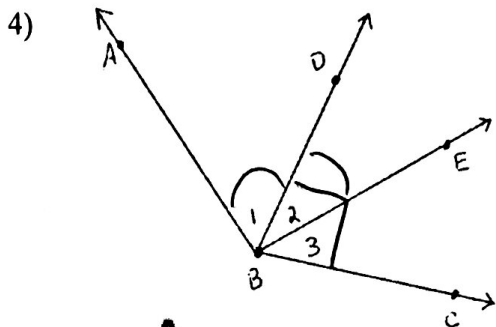
Given:  $\overline{m} \parallel \overline{n}$   
 (find at least 3 things true)

$\overline{m} \parallel \overline{n} \rightarrow$  given

$\angle 1 \cong \angle 5 \rightarrow$  corr  $\angle$ 's  $\cong$  when lines  $\parallel$

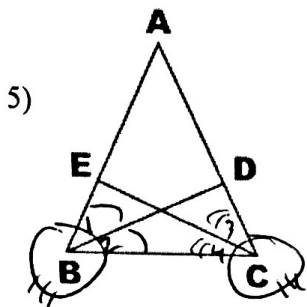
$\angle 2 \cong \angle 7 \rightarrow$  alt ext  $\angle$ 's  $\cong$  when lines  $\parallel$

$m\angle 4 + m\angle 6 = 180 \rightarrow$  cons int  $\angle$ 's  $\cong$  when lines  $\parallel$



Given:  $\overline{BD} \perp \overline{BC}$   
 $\overline{BD}$  bisects  $\angle ABE$

$\overline{BD} \perp \overline{BC} \rightarrow$  given  
 $m\angle DBC = 90^\circ \rightarrow \perp$  creates rt  $\angle$ 's  
 $\overline{BD}$  bisects  $\angle ABE$   
 $\angle 1 \cong \angle 2 \rightarrow$  bisector creates 2  $\cong$  parts



Given:  $\triangle ACB$  is isosceles with  $\angle A$  as the vertex

$\overline{BD}$  bisects  $\angle ABC$

$\overline{CE}$  bisects  $\angle ACB$

$\angle 3 \cong \angle 4 \rightarrow$  bisector creates 2  $\cong$  parts

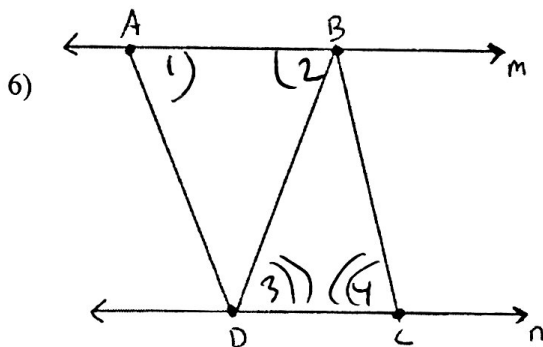
$\triangle ABC$  is isos w/  $\angle A$  as vertex  $\rightarrow$  given

$\angle ABC \cong \angle ACB \rightarrow$  base  $\angle$ 's of isos  $\triangle \cong$

$\overline{BD}$  bisects  $\angle ABC \rightarrow$  given

$\angle 1 \cong \angle 2 \rightarrow$  bisector creates 2  $\cong$  parts

$\overline{CE}$  bisects  $\angle ACB \rightarrow$  given



Given:  $\triangle ADB$  is isosceles with  $\angle D$  as the vertex

$\triangle DBC$  is isosceles with  $\angle B$  as the vertex

$\overline{m} \parallel \overline{n}$

$\triangle ADB$  is isos w/  $\angle D$  as vertex  $\rightarrow$  given

$\angle 1 \cong \angle 2 \rightarrow$  base  $\angle$ 's of isos  $\triangle$  are  $\cong$

$\triangle DBC$  is isos w/  $\angle B$  as vertex  $\rightarrow$  given

$\angle 3 \cong \angle 4 \rightarrow$  base  $\angle$ 's of isos  $\triangle$  are  $\cong$

$\overline{m} \parallel \overline{n} \rightarrow$  given

$\angle 2 \cong \angle 3 \rightarrow$  alt int  $\angle$ 's  $\cong$  when lines  $\parallel$