Unit 4b Day 8
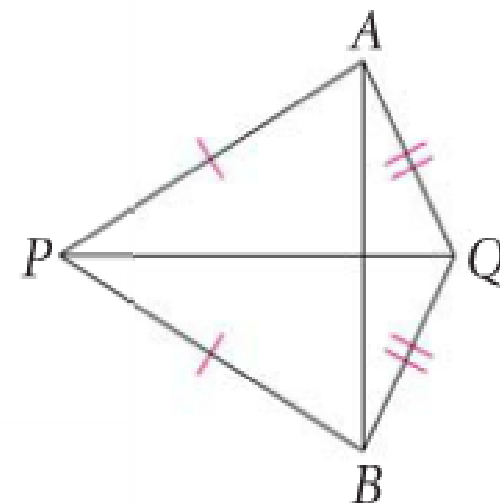
Congruent Triangle Review

43. In an isosceles triangle, the measure of the vertex angle is 4x. The measure of each base angle is 2x + 10. What is the measure of the vertex angle?
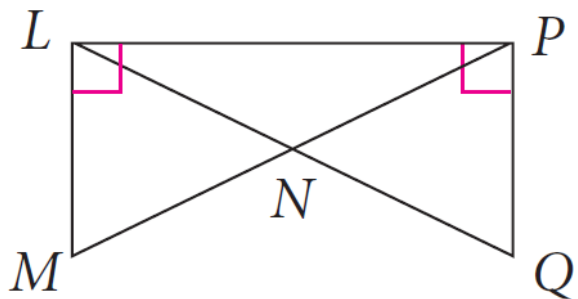
A. 10   **B.** 20   **C.** 50   **D.** 80

44. In the figure at the right, $m\angle APB = 60$.
   a. What is $m\angle PAB$? Explain.
   b. $\angle PAB$ and $\angle QAB$ are complementary.
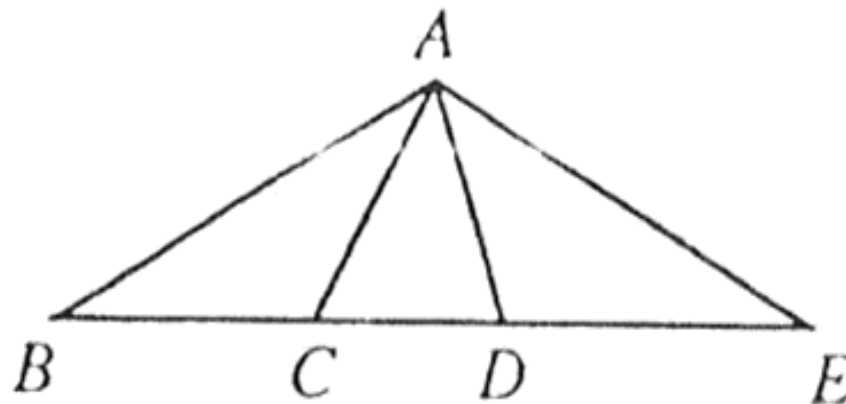   What is $m\angle AQB$? Show your work.

45. Name a pair of overlapping congruent triangles, and which postulate or theorem makes them congruent.

Given: $\overline{MP} \cong \overline{QL}, \overline{LP} \perp \overline{LM},$
$\overline{LP} \perp \overline{PQ}$

46. Given: $\overline{AC} \cong \overline{AD}, \overline{BC} \cong \overline{DE},$

and $\overline{BD} \cong \overline{EC}$
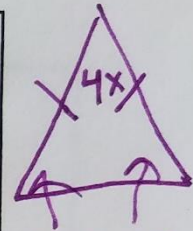
Prove: $\triangle ABC \cong \triangle AED$

Warm Up   ANSWERS   Review Day 8

Warm Up   Day 8   Review Day

43. In an isosceles triangle, the measure of the vertex angle is 4x. The measure of each base angle is 2x + 10. What is the measure of the vertex angle?

   A. 10   B. 20   C. 50   (D. 80)

44. In the figure at the right, $m\angle APB = 60$. $\triangle APB$ is an isosceles
  a. What is $m\angle PAB$? Explain. $\boxed{60°}$ So base $\angle s \cong$,
  b. $\angle PAB$ and $\angle QAB$ are complementary.   but 60° vertex $\angle$
  What is $m\angle AQB$? Show your work.   So equiangular $\triangle$ actually
     2(60) $\boxed{120°}$

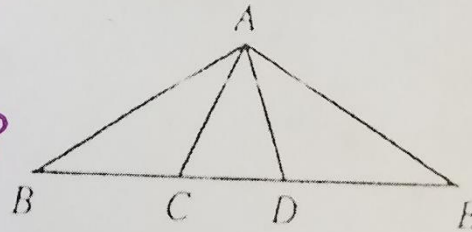45. Name a pair of overlapping congruent triangles, and which postulate or theorem makes them congruent.
  Given: $\overline{MP} \cong \overline{QL}, \overline{LP} \perp \overline{LM},$
       $\overline{LP} \perp \overline{PQ}$
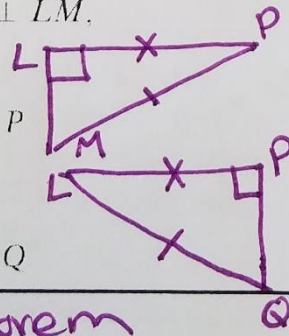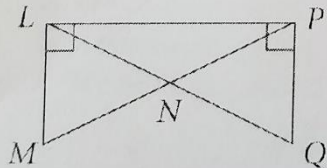
46. Given: $\overline{AC} \cong \overline{AD}, \overline{BC} \cong \overline{DE},$
    and $\overline{BD} \cong \overline{EC}$

Prove: $\triangle ABC \cong \triangle AED$

$\overline{PQ}$ is a $\perp$ bisector of $\overline{AB}$ because
$PA = PB$
(Converse of $\perp$ bis Thm)

$\triangle LMP \cong \triangle PQL$ by HL Theorem

$2x + 10$
$2(2x+10)+4x = 180$
$8x + 20 = 180$
$8x = 160$
$x = 20$
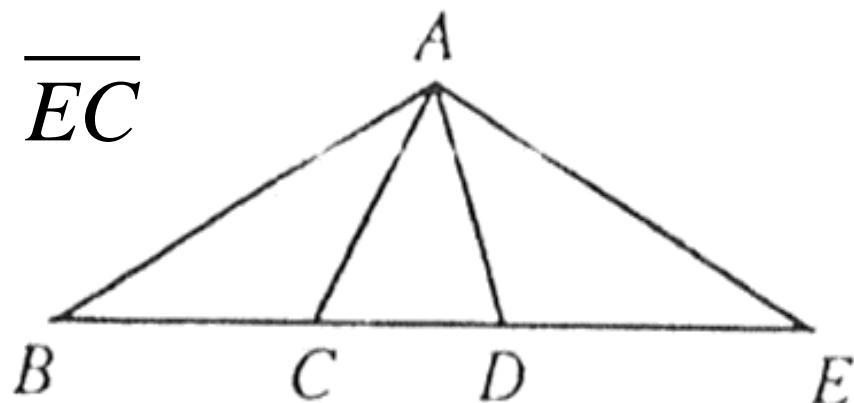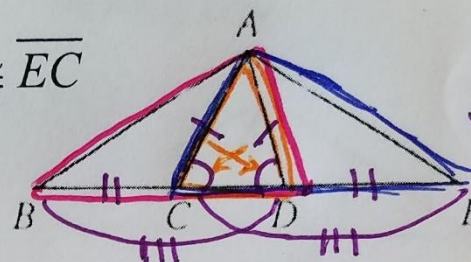vertex $\angle = 4(20)$
    $= 80$

☆ see proof below

Warm Up ANSWERS   Day 8   Review Day

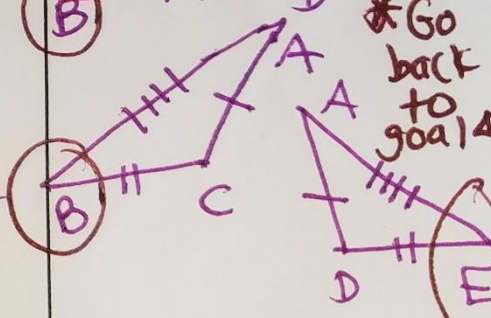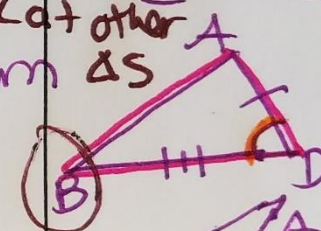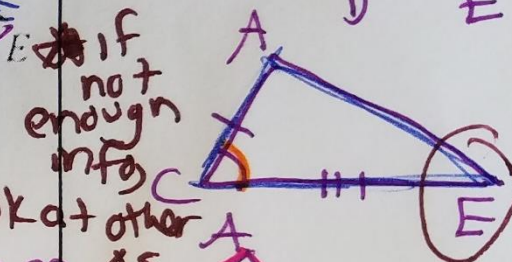Given: $\overline{AC} \cong \overline{AD}$, $\overline{BC} \cong \overline{DE}$, $\overline{BD} \cong \overline{EC}$

Prove: $\triangle ABC \cong \triangle AED$

*look at goal △S & mark pics

*watch out for isosceles!

*if not enough info ⇒ look at other △S

*Go back to goal △S

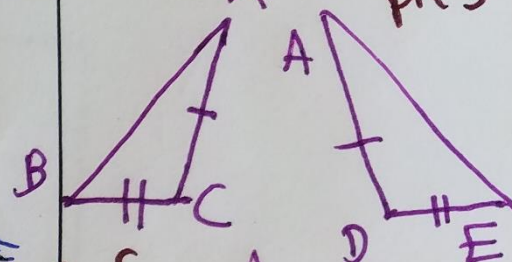|	
1) $\overline{AC} \cong \overline{AD}$, $\overline{BC} \cong \overline{DE}$, $\overline{BD} \cong \overline{EC}$	1) Given
2) $\angle ACD \cong \angle ADC$	2) Isosceles △ Theorem
3) $\triangle ACE \cong \triangle ADB$	3) SAS $\cong$ Postulate
4) $\overline{AB} \cong \overline{AE}$	4) CPCTC
5) $\triangle ABC \cong \triangle AED$	5) SSS $\cong$ Postulate

HW Discussion

Tonight's HW

- Review Sheet on Weebly

Amazing Race Review Activity

- You will work with your assigned group

- Each person must complete problems from the Country sheet on Notebook paper ONLY
(NOT on the Country sheet!!), which will be collected

- When you complete a "Country", check answers with your group, then one group member should bring your answer sheet to the teacher to be checked

- If you've successfully "toured" that country, your teacher will tell you the next country on your journey (1st, be sure to return the prior country's sheet to its folder)

- When you successfully complete the Amazing Race, you'll end back where you began. ☺