

# 11D Triangles, Triangles and More Triangles

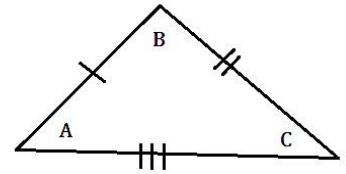
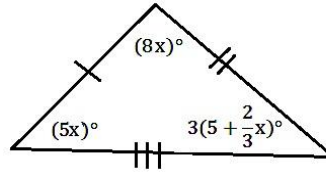
Name: \_\_\_\_\_ Per: \_\_\_\_\_

SHOW YOUR WORK AND WORK IN PENCIL

1. Find the following angle measurements using the pictures given.

a.  $x =$  \_\_\_\_\_ c.  $m\angle B =$  \_\_\_\_\_

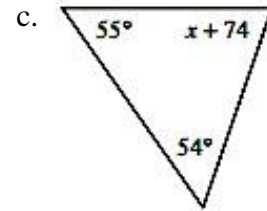
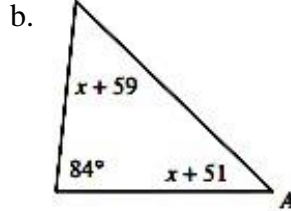
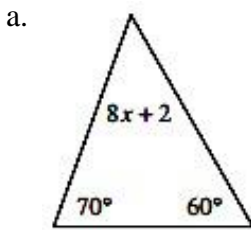
b.  $m\angle A =$  \_\_\_\_\_ d.  $m\angle C =$  \_\_\_\_\_



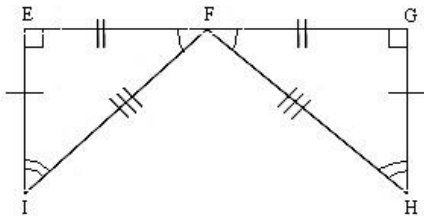
2. MARK AND STATE **ONLY ONE** additional set of information required to prove that the triangles by the theorem stated. (Remember reflexive and vertical don't need to be marked)

<p>a. Congruent by AAS</p>	<p>b. Congruent by ASA</p>	<p>c. Congruent by SSS</p>	<p>d. Congruent by SAS</p>
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3. Solve for  $x$  and then find the missing angles



4. Fill in the congruent statements for the following image.



$\triangle FGH \cong \triangle$  \_\_\_\_\_

$\angle EFI \cong \angle$  \_\_\_\_\_

$\overline{FG} \cong$  \_\_\_\_\_

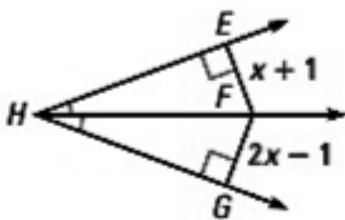
$\angle G \cong \angle$  \_\_\_\_\_

$\overline{GH} \cong$  \_\_\_\_\_

$\angle H \cong \angle$  \_\_\_\_\_

$\overline{FH} \cong$  \_\_\_\_\_

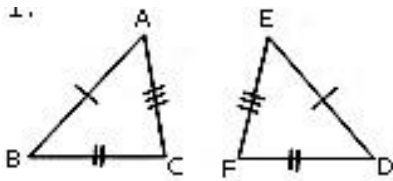
5. First prove that the triangles are congruent and then with **CPCTC** (Corresponding Parts of Congruent Triangles are Congruent) find the side length asked.



a. Find  $EF$  and  $GF$

I know	Because
	Given
	Given
	Right Angles are congruent
$EF \cong GF$	
$\triangle EFH \cong \triangle GFH$	Theorem
	CPCTC

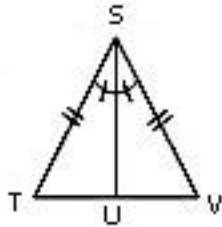
For each pair of triangles below, tell **a)** Are they congruent, if so answer part b and c. **b)** Write the triangle congruency statement **c)** Give the theorem that makes them congruent. If they are NOT congruent, explain why.



6. a) Congruent? YES or NO

b)  $\Delta CBA \cong \Delta$  \_\_\_\_\_

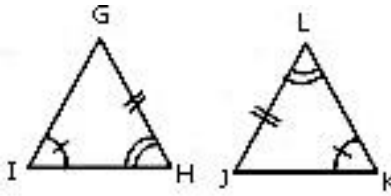
c) \_\_\_\_\_



9. a) Congruent? YES / NO

b)  $\Delta VUS \cong \Delta$  \_\_\_\_\_

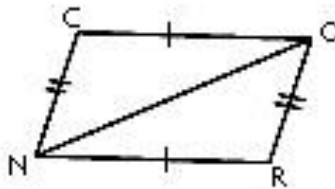
c) \_\_\_\_\_



7. a) Congruent? YES / NO

b)  $\Delta HIG \cong \Delta$  \_\_\_\_\_

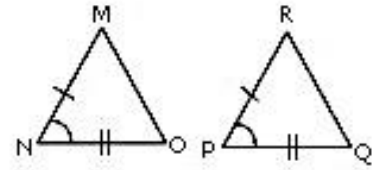
c) \_\_\_\_\_



10. a) Congruent? YES/NO

b)  $\Delta RON \cong \Delta$  \_\_\_\_\_

c) \_\_\_\_\_

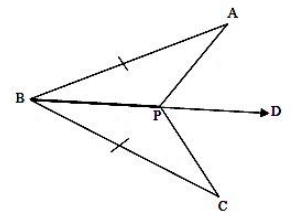


8. a) Congruent? YES /NO

b)  $\Delta MNO \cong \Delta$  \_\_\_\_\_

c) \_\_\_\_\_

Given:  $\overleftrightarrow{BD}$  bisects  $\angle ABC$



11.

a) Congruent? YES/ NO

b)  $\Delta CBP \cong \Delta$  \_\_\_\_\_

c) \_\_\_\_\_

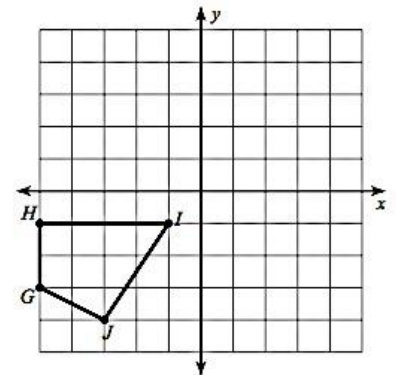
12. Find the **perimeter** of the following image. Show your work for each side length. Give exact AND estimate to the nearest 10<sup>th</sup>.

13. A woman owns 21 pets. Each of her pets is either a cat or a bird. If the pets have a total of 76 legs, and we will assume that none of the bird's legs are protruding from any of the cats' jaws.

a. Define your variables.

b. Write two equations

c. Solve the system to find how cats and birds does the woman own.

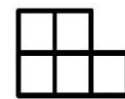


14. Find the **recursive** and **explicit** equations for the following pattern.

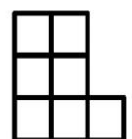
Recursive: \_\_\_\_\_ Explicit: \_\_\_\_\_



Step 1



Step 2



Step 3