

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

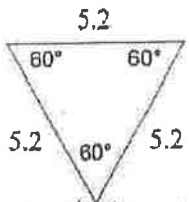
**KEY**

Date: \_\_\_\_\_

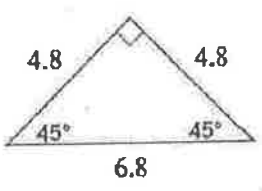
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Geometry – Semester Review Chapter 4

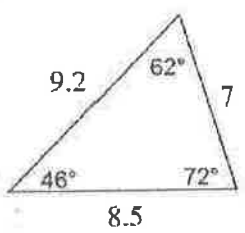
1. Classify each triangle by angle measure and side length.



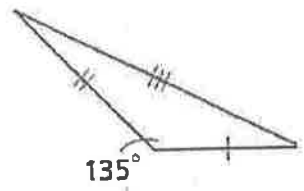
Equilateral  
Equiangular



Right Isosceles

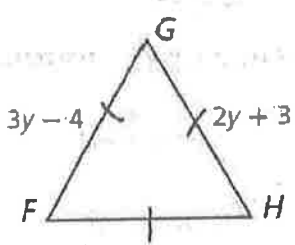


Acute Scalene



Obtuse Scalene

2. Given equilateral triangle FGH, find the length of FH.



$$3y - 4 = 2y + 3$$

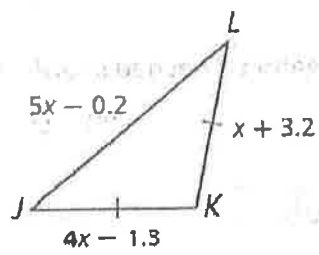
$$\begin{array}{r} -2y \\ \hline y - 4 = 3 \\ + 4 \\ \hline y = 7 \end{array}$$

$$GH = 2(7) + 3 = 17$$

$$\boxed{FH = GH = 17}$$

Find the measure of Angle A.

3. Find the length of LJ.



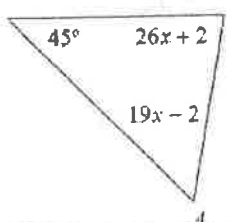
$$4x - 1.3 = x + 3.2$$

$$\begin{array}{r} -x \\ \hline 3x - 1.3 = 3.2 \\ + 1.3 \quad + 1.3 \\ \hline 3x = 4.5 \\ \frac{3x}{3} = \frac{4.5}{3} \\ x = 1.5 \end{array}$$

$$\boxed{LJ = 5(1.5) - 0.2}$$

$$\boxed{LJ = 7.3}$$

5. Find the value of x.

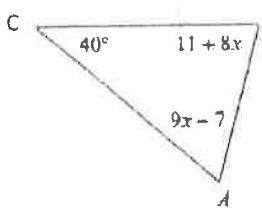


$$45 + 26x + 2 + 19x - 2 = 180$$

$$45x + 45 = 180$$

$$\begin{array}{r} -45 \quad -45 \\ \hline 45x = 135 \\ \frac{45x}{45} = \frac{135}{45} \\ x = 3 \end{array}$$

$$\boxed{m\angle A = 19(3) - 2 = 55^\circ}$$

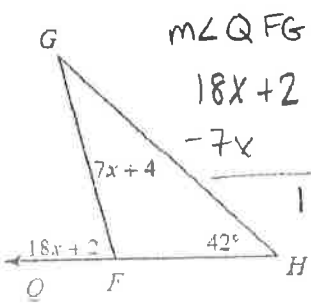


$$40 + 11 + 8x + 9x - 7 = 180$$

$$17x + 44 = 180$$

$$\begin{array}{r} -44 \quad -44 \\ \hline 17x = 136 \\ \frac{17x}{17} = \frac{136}{17} \\ \boxed{x = 8} \end{array}$$

6. Find the value of x.

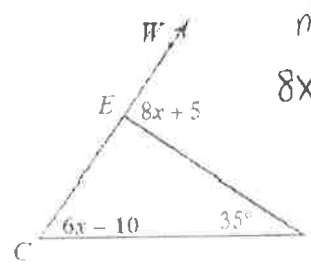


$$m\angle QFG = m\angle FGH + m\angle GHF$$

$$18x + 2 = 7x + 4 + 42$$

$$\begin{array}{r} -7x \quad -7x \\ \hline 11x + 2 = 46 \\ -2 \quad -2 \\ \hline 11x = 44 \\ \frac{11x}{11} = \frac{44}{11} \\ \boxed{x = 4} \end{array}$$

7. Find the measure of angle WED.



$$m\angle WED = m\angle C + m\angle D$$

$$8x + 5 = 6x - 10 + 35$$

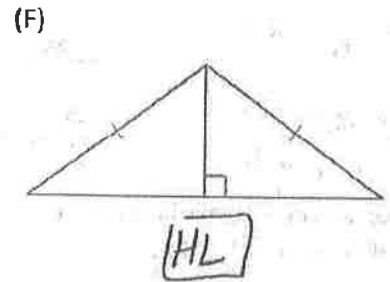
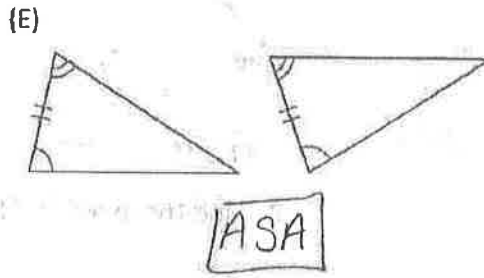
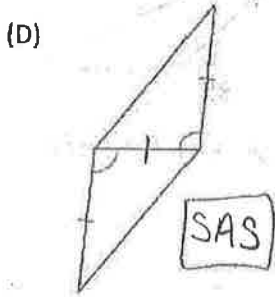
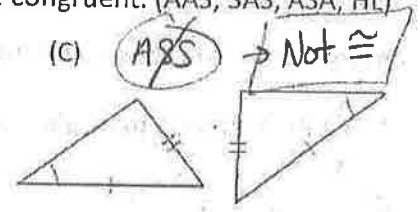
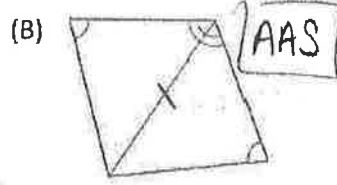
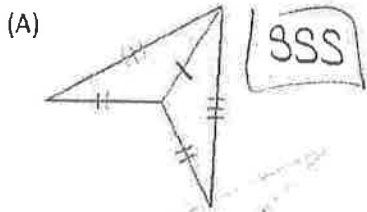
$$8x + 5 = 6x + 25$$

$$\begin{array}{r} -6x \quad -6x \\ \hline 2x + 5 = 25 \\ -5 \quad -5 \\ \hline 2x = 20 \\ \frac{2x}{2} = \frac{20}{2} \\ x = 10 \end{array}$$

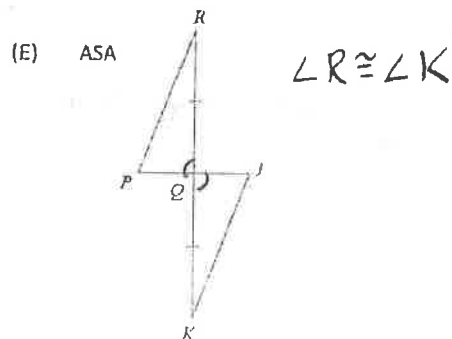
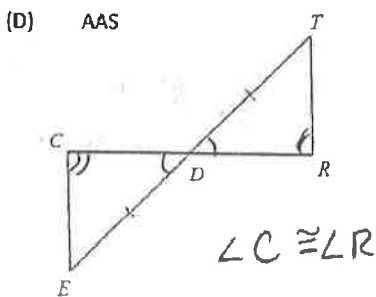
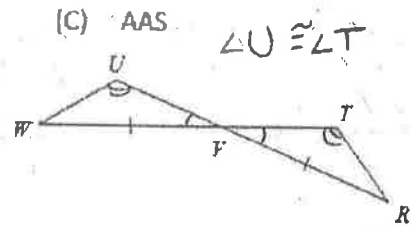
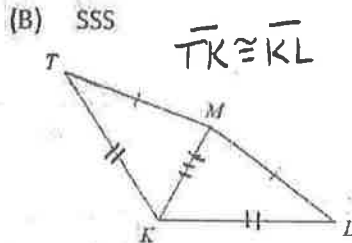
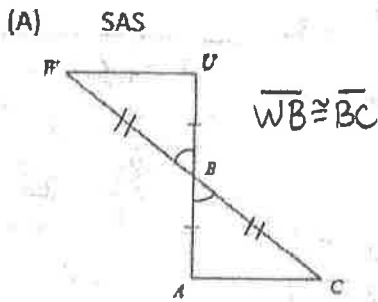
$$\boxed{m\angle WED = 8(10) + 5}$$

$$\boxed{= 85^\circ}$$

8. If possible, tell which shortcut could be used to prove the two triangles are congruent. (AAS, SAS, ASA, HL)



9. State what extra information is needed in order to prove the triangles are congruent by the given shortcut.



10. Write a rule that would translate a triangle 2 units left and 3 units down.

a)  $(x, y) \rightarrow (x+2, y+3)$

b)  $(x, y) \rightarrow (x-3, y+2)$

c)  $(x, y) \rightarrow (x-2, y-3)$

d)  $(x, y) \rightarrow (x+2, y-3)$

11. Write a rule that would translate a triangle 5 units right and 7 units up.

$(x, y) \rightarrow (x+5, y+7)$

12. Write a rule that would translate a triangle 3 units left and 4 units up.

$(x, y) \rightarrow (x-3, y+4)$