NAME _____ DATE _____ PERIOD _____

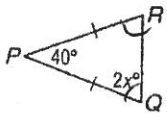
Chapter 4 Test Review + (Use proof packets)

SCORE _____

* Also complete any proofs not completed in class *

Find x.

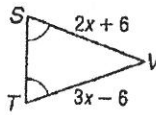
1

(a) 

$140 = 2x + 2x$

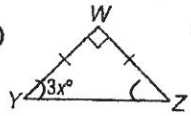
$140 = 4x$

$35 = x$

(b) 

$2x + 6 = 3x - 6$

$12 = x$

(c) 

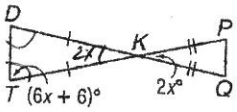
$90 + 3x + 3x = 180$

$90 + 6x = 180$

$6x = 90$

$x = 15$

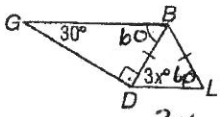
2

(a) 

$6x + 6 + 6x + 6 + 2x = 180$

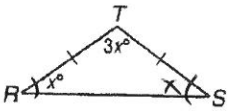
$14x + 12 = 180$

$x = 12$

(b) 

$3x = 60$

$x = 20$

(c) 

$3x + x + x = 180$

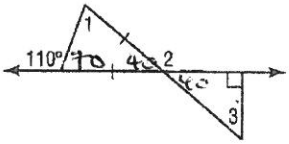
$5x = 180$

$x = 36$

~~**3.** Find the measure of the sides of the triangle if the vertices of $\triangle EFG$ are $E(-3, 3)$, $F(1, -1)$, and $G(-3, -5)$. Then classify the triangle by its sides.~~ **3.** _____

Find the measure of each angle.

4. $m\angle 1$

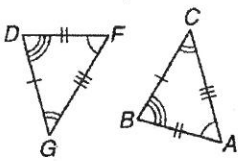


4. 70

5. $m\angle 2$ **5.** 140

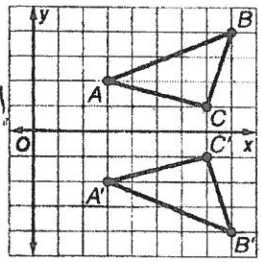
6. $m\angle 3$ **6.** 50

7. Identify the congruent triangles and name their corresponding congruent angles.



7. $\triangle FGD \cong \triangle ACB$

8. Verify that $\triangle ABC \cong \triangle A'B'C'$ preserves congruence, assuming that corresponding angles are congruent. Calculate all sides! Distance formula!



$x = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$

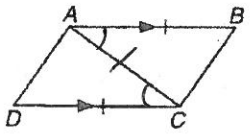
8. _____

$AB = \sqrt{29}$ $A'B' = \sqrt{29}$

$BC = \sqrt{10}$ $B'C' = \sqrt{10}$

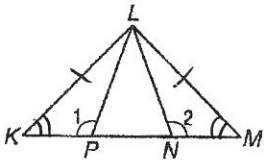
$CA = 8\sqrt{17}$ $C'A' = \sqrt{17}$

9. $ABCD$ is a quadrilateral with $\overline{AB} \cong \overline{CD}$ and $\overline{AB} \parallel \overline{CD}$. Name the postulate that could be used to prove $\triangle BAC \cong \triangle DCA$. Choose from SSS, SAS, ASA, and AAS.



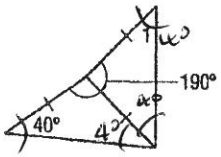
9. SAS

10. $\triangle KLM$ is an isosceles triangle and $\angle 1 \cong \angle 2$. Name the theorem that could be used to determine $\angle LKP \cong \angle LMN$. Then name the postulate that could be used to prove $\triangle LKP \cong \triangle LMN$. Choose from SSS, SAS, ASA, and AAS.



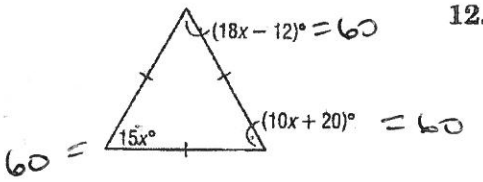
10. AAS

11. Use the figure to find $m\angle 1$.



11. 40

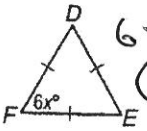
12. Find x.



12. $x = 4$

13. Find x.

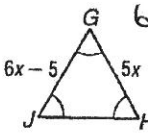
(a)



$6x = 60$

$x = 10$

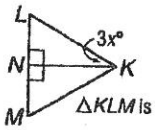
(b)



$6x - 5 = 5x$

$x = 5$

(c)



$\triangle KLM$ is equilateral.

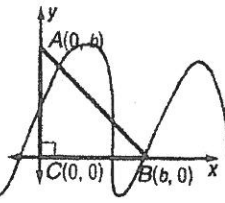
$60 + 90 + 3x = 180$

$150 + 3x = 180$

$3x = 30$

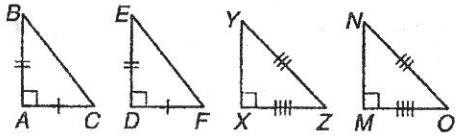
$x = 10$

14. $\overline{CP}$ joins point C in isosceles right $\triangle ABC$ to the midpoint P, of $\overline{AB}$. Name the coordinates of P. Then determine the relationship between $\overline{AB}$ and $\overline{CP}$.



14.

14. Without finding any other angles or sides congruent, which pair of triangles can be proved to be congruent by the HL Theorem?



$\triangle XYZ \cong \triangle MNO$