Name_____

Apply Congruent Triangles Date_____

Complete the following:

1. *** The opposite angles of a parallelogram are _____ .

2. *** The diagonals of a parallelogram _____ .

3. *** The diagonals of a rhombus are _____ .

4. *** The median of a trapezoid is _____ and _____ .

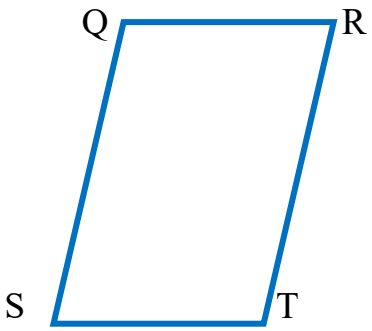
5. *** The segment joining the midpoints of two sides of a triangle is _____ and _____ _____.

6. *** The sum of the lengths of any two sides of a triangle is _____.

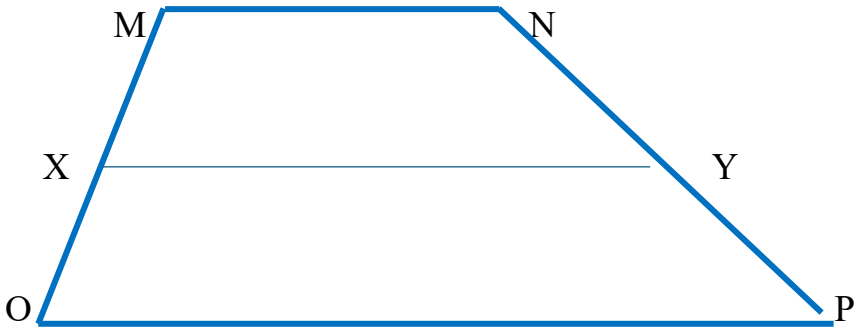
7. ** Given the parallelogram ABCD, if $m\angle$ D = 110, find the $m\angle A$



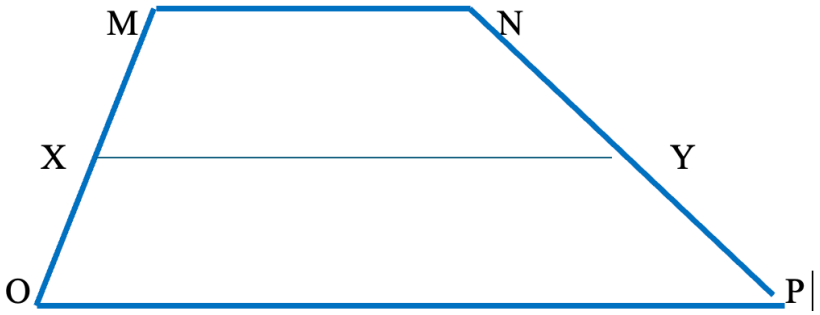
8. ** Given the parallelogram QRST, find the measure of $m\angle Q$, if $m\angle T$ = 6x + 20 and the m $\angle Q = 4x + 70$



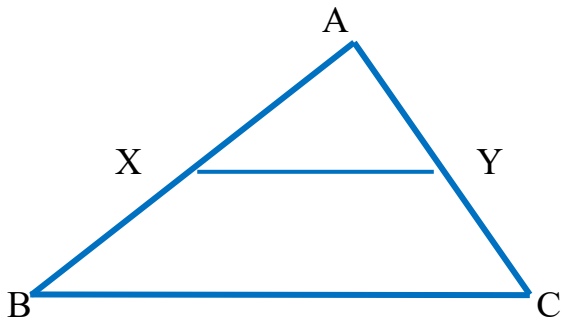
9. ** Given the trapezoid MNOP, if MN = 8 and OP = 12, if $\overline{XY}$ is the median, find XY



10. ** Given the trapezoid MNOP, if $\overline{XY}$ is the median and MN = 2x + 8, OP =4x – 4 and XY = x + 2, find XY.



11. ** Given ΔABC with $\overline{XY} \parallel \overline{BC}$ and $\overline{XY}$ joins the midpoints, if XY = 8, find BC.



12. ** Use the Figure in problem 11, if BC = 12 and XY = x + 3, find XY.

13. ** Is it possible for a triangle to exist with given the following 3 sides?

a. 4, 5, 6 _____

b. 2, 5, 8 _____

14. ** Find the domain (possible values for the 3rd side) if 2 sides had measures of 6 and 8.

15.* Prove the diagonals of a parallelogram bisect each other.
(HINT: Draw the picture & identify angles)

Statements	Reasons

16. *** Write parental/guardian contact information; an email, home phone, cell phone or home address (CHP).