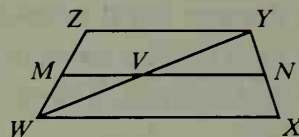


# Cumulative Review: Chapters 1–9

- A** 1. If  $x$ ,  $x + 3$ , and  $y$  are the lengths of the sides of a triangle, then  
 $\underline{\quad} < y < \underline{\quad}$ .

2. Find the measure of an angle if the measures of a supplement and a complement of the angle have the ratio 5:2.

3. Given:  $\overline{MN}$  is the median of a trapezoid  $WXYZ$ .  
 Prove:  $\overline{MN}$  bisects  $\overline{WY}$ .



4. Prove: The diagonals of a rhombus divide the rhombus into four congruent triangles.

5. A  $30^\circ$ - $60^\circ$ - $90^\circ$  triangle is inscribed in a circle of radius 7. Find the length of each leg of the triangle.

6. Must three parallel lines be coplanar? Draw a diagram to illustrate your answer.

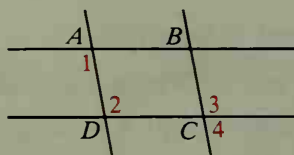
7. The measures of the angles of a triangle are in the ratio 1:9:10. Find the measure of each angle.

8. If a regular polygon has 18 sides, find the measure of each interior angle and the measure of each exterior angle.

9. If  $ABCE$  is a square and  $AC = 4$ , find  $AB$ .

10. If the lengths of two sides of a right triangle are 6 and 10, find two possible lengths for the third side.

11. Given:  $\angle 1 \cong \angle 2$ ;  $\angle 2 \cong \angle 3$   
 Prove:  $\overline{AB} \cong \overline{DC}$



12. When the altitude to the hypotenuse of a certain right triangle is drawn, the altitude divides the hypotenuse into segments of lengths 8 and 10. Find the length of the shorter leg.

13. Write (a) the contrapositive and (b) the inverse of the following statement: If quad.  $ABCD$  is a parallelogram, then  $\angle A \cong \angle C$ .

14. If  $\overrightarrow{OB}$  bisects  $\angle AOC$ ,  $m\angle AOB = 5t - 7$ , and  $m\angle AOC = 8t + 10$ , find the numerical measure of  $\angle BOC$ .

15. Two chords of a circle intersect inside a circle, dividing one chord into segments of length 15 and 12 and the other chord into segments of length 9 and  $t$ . Find the value of  $t$ .

16. If points  $R$  and  $S$  on a number line have coordinates  $-11$  and  $3$ , and  $\overline{RS}$  has midpoint  $T$ , find  $RS$  and  $ST$ .