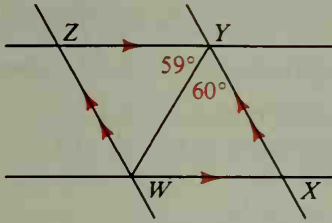
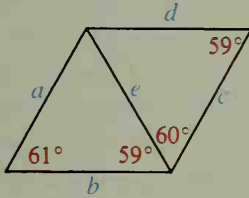


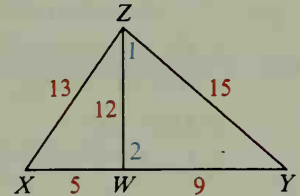
B 13.



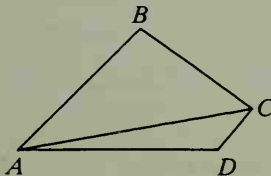
15. Use the lengths a , b , c , d , and e to complete:
 $\underline{\quad} > \underline{\quad} > \underline{\quad} > \underline{\quad} > \underline{\quad}$



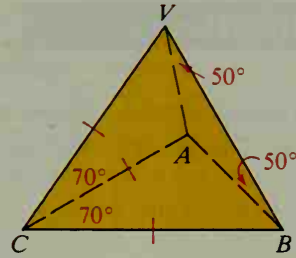
17. The diagram is not drawn to scale. Use $m\angle 1$, $m\angle 2$, $m\angle X$, $m\angle Y$, and $m\angle XZY$ to complete:
 $\underline{\quad} > \underline{\quad} > \underline{\quad} > \underline{\quad} > \underline{\quad}$



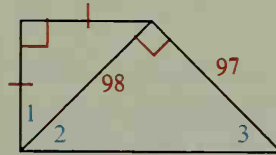
18. Given: Quad. $ABCD$
 Prove: $AB + BC + CD + DA > 2(AC)$



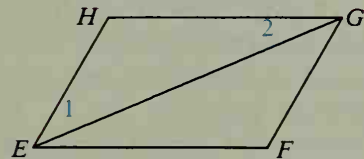
14.



16. Use $m\angle 1$, $m\angle 2$, and $m\angle 3$ to complete:
 $\underline{\quad} > \underline{\quad} > \underline{\quad}$



19. Given: $\square EFGH$; $EF > FG$
 Prove: $m\angle 1 > m\angle 2$



- C 20. Discover, state, and prove a theorem that compares the perimeter of a quadrilateral with the sum of the lengths of the diagonals.
 21. Prove that the sum of the lengths of the medians of a triangle is greater than half the perimeter.
 22. If you replace “medians” with “altitudes” in Exercise 21, can you prove the resulting statement? Explain.

In Exercises 23 and 24, begin your proofs by drawing auxiliary lines.

23. Discover, state, and prove a theorem that compares the length of the longest side of a quadrilateral with the sum of the lengths of the other three sides.
 24. Prove: If P is any point inside $\triangle XYZ$, then $ZX + ZY > PX + PY$.