Cumulative Review: Chapters 1–4

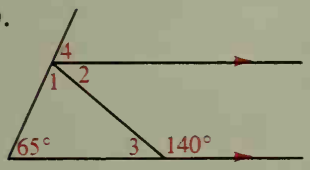
Complete each sentence with the most appropriate word, phrase, or value.

A

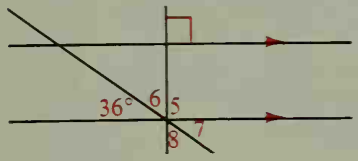
1. If S is between R and T, then $RS + ST = RT$ by the ___?___.
2. If two parallel planes are cut by a third plane, then the lines of intersection are ___?___.
3. $\overrightarrow{BD}$ bisects $\angle ABC$, $m\angle ABC = 5x - 4$, and $m\angle CBD = 2x + 10$. $\angle ABC$ is a(n) ___?___ angle.
4. If two intersecting lines form congruent adjacent angles, then the lines are ___?___.
5. If $\angle 1$ and $\angle 2$ are complements and $m\angle 1 = 74$, then $m\angle 2 =$ ___?___.
6. Given the conditional "If $x = 9$, then $3x = 27$," its converse is ___?___.
7. If the measure of each interior angle of a polygon is 144, then the polygon has ___?___ sides.
8. In quadrilateral $EFGH$, $\overline{EF} \parallel \overline{HG}$, $m\angle E = y + 10$, $m\angle F = 2y - 40$, and $m\angle H = 2y - 31$. $m\angle G =$ ___?___ (numerical answer)
9. If a diagonal of an equilateral quadrilateral is drawn, the two triangles formed can be proved congruent by the ___?___ method.

Find the measure of each numbered angle.

10.

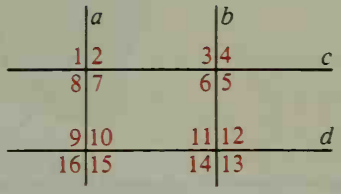


11.



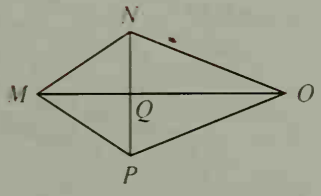
Could the given information be used to prove that two lines are parallel? If so, which lines?

12. $m\angle 8 + m\angle 9 = 180$
13. $\angle 1 \cong \angle 4$
14. $m\angle 2 = m\angle 6$
15. $\angle 8$ and $\angle 5$ are rt. $\angle$s.



B

16. Given: $\overline{MN} \cong \overline{MP}$; $\angle NMO \cong \angle PMO$
    Prove: $\overleftrightarrow{MO}$ is the $\perp$ bisector of $\overline{NP}$.
17. Given: $\overline{MO} \perp \overline{NP}$; $\overline{NO} \cong \overline{PO}$
    Prove: $\overline{MN} \cong \overline{MP}$



18. Write a paragraph proof: If $\overline{AX}$ is both a median and an altitude of $\triangle ABC$, then $\triangle ABC$ is isosceles.