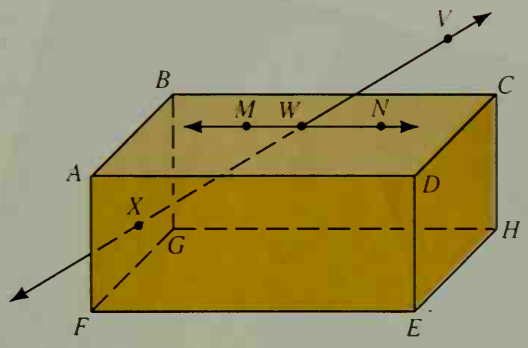
Cumulative Review: Chapters 1 and 2

Name or state the postulate, property, definition, or theorem that justifies the statement.

A

1. If $8x = 16$, then $x = 2$.
2. If $\angle K \cong \angle L$ and $\angle L \cong \angle M$, then $\angle K \cong \angle M$.
3. If $\angle AOB$ is a right angle, then $\overleftrightarrow{OA} \perp \overleftrightarrow{OB}$.
4. If $a + 7 = b$ and $b = 4$, then $a + 7 = 4$.
5. If $a + 7 = 4$, then $a = -3$.
6. There is a line through F and H.
7. The intersection of plane $CDEH$ and plane $FGHE$ is $\overleftrightarrow{EH}$.
8. If W is the midpoint of $\overline{XV}$, then $XW = \frac{1}{2}XV$.
9. $MW + WN = MN$



Exs. 6–14

Classify each statement as true or false.

10. $\overrightarrow{WV}$ contains point X.
11. $\overline{MN}$ lies in plane $ABCD$.
12. $\overleftrightarrow{WV}$ intersects plane $ABGF$.
13. F, E, H, and C are coplanar.
14. A, B, and V are coplanar.

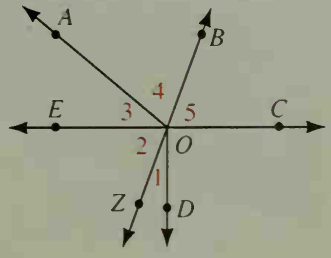
Classify each statement as true or false. If it is false, provide a counterexample.

15. Through any three points, there is exactly one plane.
16. Perpendicular lines form congruent adjacent angles.
17. If points A and B are in plane M, then $\overline{AB}$ is in plane M.
18. Complementary angles must be adjacent.

B

19. If $m\angle A = 45$, then the complement of $\angle A$ is one third of its supplement.
20. If $m\angle RUN = m\angle SUN$, then $\overrightarrow{UN}$ is the bisector of $\angle RUS$.

In the diagram, $\overrightarrow{OB}$ bisects $\angle AOC$ and $\overleftrightarrow{EC} \perp \overrightarrow{OD}$. Find the value of x.



21. $m\angle 5 = 2x$, $m\angle 3 = x$
22. $m\angle 1 = 2x$, $m\angle 2 = 6x + 2$
23. $m\angle 2 = 6x + 9$, $m\angle 5 = 2x + 49$
24. $m\angle 2 = 3x$, $m\angle 3 = 2x - 4$
25. $m\angle 1 = x - 8$, $m\angle 2 = 2x + 5$, $m\angle 4 = 3x - 26$