

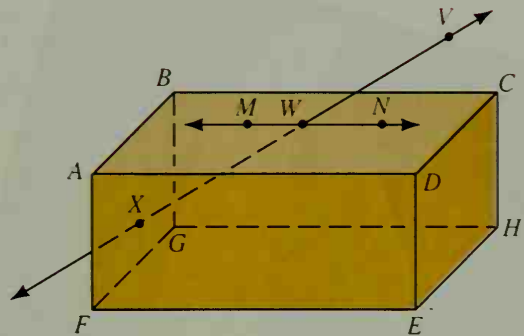
# Cumulative Review: Chapters 1 and 2

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  $\overrightarrow{OA} \perp \overrightarrow{OB}$ .
  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.  $MW + WN = MN$

Classify each statement as true or false.

10.  $\overleftrightarrow{WV}$  contains point  $X$ .
11.  $\overleftrightarrow{MN}$  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.



Exs. 6-14

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  $\overleftrightarrow{EC} \perp \overleftrightarrow{OD}$ . 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.  $m\angle 1 = x - 8$ ,  $m\angle 2 = 2x + 5$ ,  $m\angle 4 = 3x - 26$

