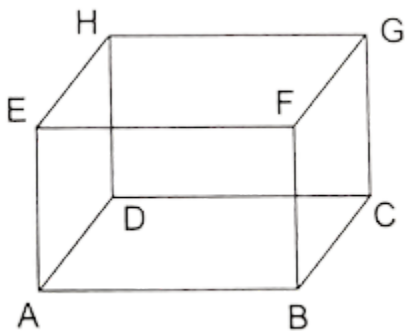
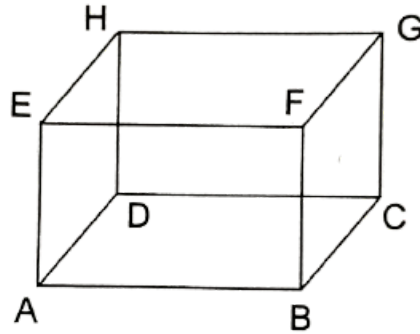


Geometry #6: Parallel, Perpendicular, and All That
Booklet

1. Lines that are coplanar but do not intersect can be described as
 - (1) perpendicular
 - (2) parallel
 - (3) skew
 - (4) congruent
2. The intersection of two planes is
 - (1) 1 point
 - (2) 1 line
 - (3) 2 points
 - (4) 2 planes
3. Line r intersects parallel planes U and V . The intersection can be described as
 - (1) 2 parallel lines
 - (2) 1 line
 - (3) 2 intersecting lines
 - (4) 2 points
4. Points A , B , and C are not collinear. How many planes contain all three points?
 - (1) one
 - (2) two
 - (3) three
 - (4) an infinite number
5. In the figure of a rectangular prism, which of the following is true?
 - (1) Points E , H , D , and A are coplanar and collinear.
 - (2) \overline{HD} is skew to \overline{CG} , and $\overline{CD} \perp \overline{CG}$
 - (3) $\overline{EA} \perp \overline{BC}$, and $\overline{AB} \parallel \overline{CD}$.
 - (4) $\overline{EA} \parallel \overline{CG}$, and \overline{EH} skew to \overline{FB} .

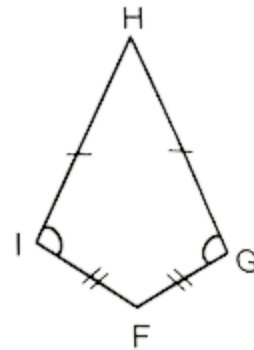




1. Identify 3 segments parallel to \overline{EA} .
2. Identify 4 segments perpendicular to \overline{BC} .
3. Identify 4 segments skew to \overline{HD} .
4. Identify 1 plane parallel to plane EFG
5. Identify 4 planes perpendicular to plane

6. Which parts of the accompanying figure are congruent?

- (1) $\overline{HI} \cong \overline{HG}$, $\angle I \cong \angle G$, and $\angle H \cong \angle F$
- (2) $\overline{HI} \cong \overline{HG}$, $\overline{IF} \cong \overline{FG}$, and $\angle I \cong \angle G$
- (3) $\overline{HI} \cong \overline{IF}$, $\overline{HG} \cong \overline{FG}$, and $\angle I \cong \angle G$
- (4) $\overline{IF} \cong \overline{FG}$ and $\angle H \cong \angle F$



7. \overrightarrow{MN} and \overrightarrow{JK} intersect at point L . Which of the following is not true?

- (1) Points J , K , and M are collinear.
- (2) \overrightarrow{MN} and \overrightarrow{JK} are coplanar.
- (3) Points J , K , and L are collinear.
- (4) Points J , K , L , and M are coplanar.

8. Given points F , G , H , and I with no three of the points collinear, what is the maximum number of distinct lines that can be defined using points F , G , H , and I ?

- (1) 4
- (2) 5
- (3) 6
- (4) 8

9. Lines r and s intersect at point A . Line t intersects lines r and s at points B and C , respectively. Which of the following is true?

- (1) Lines r , s , and t must all be perpendicular.
- (2) Line t must be skew to lines r and s .
- (3) Points A , B , and C must be collinear.
- (4) Lines r , s , and t must all be coplanar.

10. If $\angle J \cong \angle L$, which must be true?

- (1) $m\angle J = m\angle L$
- (2) $\angle J \perp \angle L$
- (3) $\angle J \parallel \angle L$
- (4) $m\angle J + m\angle L = 180^\circ$

11. In the triangular prism,

- (a) name a segment skew to \overline{EF}
- (b) name two planes containing \overline{AB}
- (c) name a pair of parallel planes

