

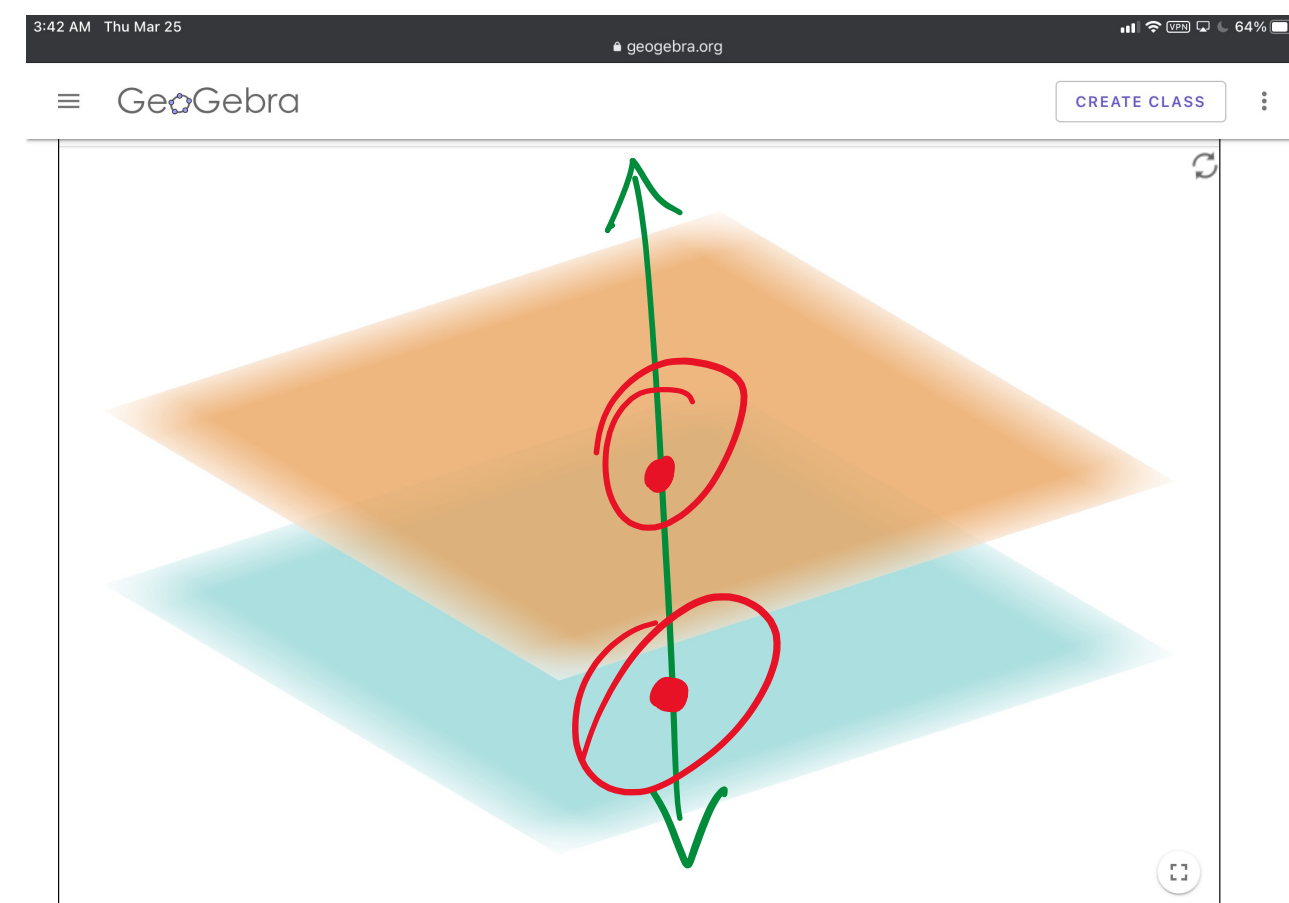


Booklet
Geometry...

Solutions

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

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



- Identify 3 segments parallel to \overline{EA} .
 \overline{EF} , \overline{BC} , \overline{HG}
- Identify 4 segments perpendicular to \overline{BC} .
 $\overline{GC} \perp \overline{BC}$, $\overline{FB} \perp \overline{BC}$, $\overline{AB} \perp \overline{BC}$, $\overline{DC} \perp \overline{BC}$
- Identify 4 segments skew to \overline{HD} .
 \overline{EA} , \overline{FB} , \overline{AD} , \overline{BC}
- Identify 1 plane parallel to plane EFG .
 plane $ADB \parallel$ plane EFG
- Identify 4 planes perpendicular to plane EFA , EHO , HOC , FBC .
- Which parts of the accompanying figure are congruent?
 - $\overline{HI} \cong \overline{HG}$, $\angle I \cong \angle G$, and $\angle H \cong \angle F$
 - $\overline{HI} \cong \overline{HG}$, $\overline{IF} \cong \overline{FG}$, and $\angle I \cong \angle G$
 - $\overline{HI} \cong \overline{IF}$, $\overline{HG} \cong \overline{FG}$, and $\angle I \cong \angle G$
 - $\overline{IF} \cong \overline{FG}$ and $\angle H \cong \angle F$
- \overrightarrow{MN} and \overrightarrow{JK} intersect at point L . Which of the following is not true?
 - Points J , K , and M are collinear.
 - \overrightarrow{MN} and \overrightarrow{JK} are coplanar.
 - Points J , K , and L are collinear.
 - Points J , K , L , and M are coplanar.
- 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 ?
 - 4
 - 5
 - 6
 - 8

- Lines r and s intersect at point A . Line t intersects lines r and s and points B and C , respectively. Which of the following is true?
 - Lines r and s must all be perpendicular.
 - Lines r and s must be skew to lines r and s .
 - Points A , B , and C must be collinear.
 - Lines r , s , and t must all be coplanar.
- If $\angle J \cong \angle L$, which must be true?
 - $m\angle J = m\angle L$
 - $\angle J \perp \angle L$
 - $\angle J \parallel \angle L$
 - $m\angle J + m\angle L = 180^\circ$
- In the triangular prism,
 - name a segment skew to \overline{EF} \overline{DC}
 - name two planes containing \overline{AB}
 - name a pair of parallel planes

b) plane ABC
plane EAB

c) plane $FDC \parallel$
plane EAB