

1.4

Postulate or Axiom: is an accepted statement of fact.

Theorem is a conjecture that is Proven.

Segment: 2 points and all the between them that lie on the line containing the 2 points.

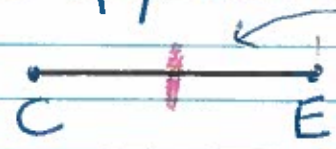
picture:



name by symbol: \overline{AB} , \overline{BA}

Construction with Straightedge + Compass.

① Copy a segment



preimage



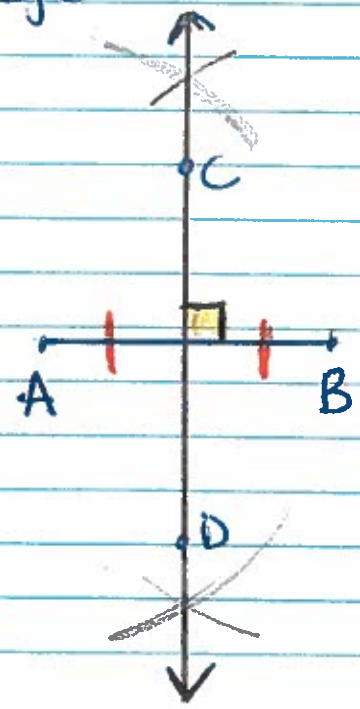
image

congruent marking

construction markings

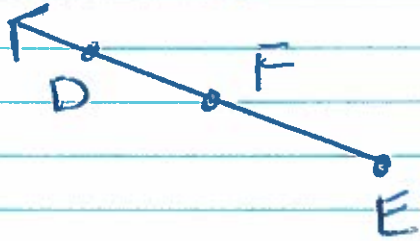
② Perpendicular Bisector of a Segment AB

$\overline{AB} \perp \overleftrightarrow{CD}$
segment line



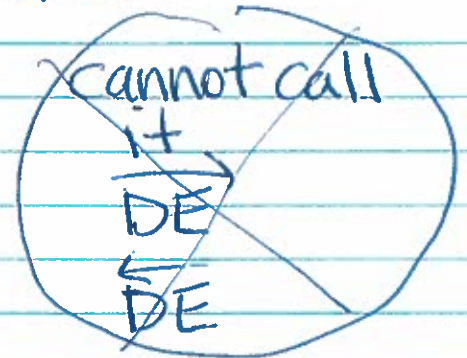
Ray Part of a line that contains 1 endpoint and all the points on a line in 1 direction.

Picture



Name w/ Symbol

\overrightarrow{ED}
 ↑
 endpoint
 \overrightarrow{EF}



Opposite Rays

are 2 collinear rays with the same endpoint

\overrightarrow{BA} and \overrightarrow{BC} are opposite rays.



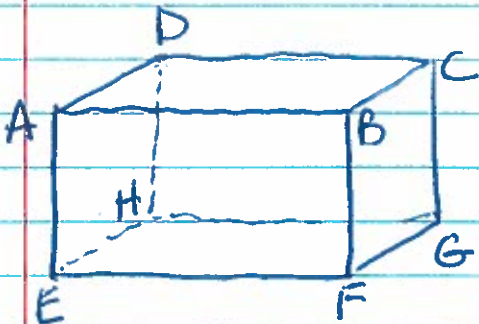
Parallel Lines

are COPLANAR lines that never intersect.

$\overleftrightarrow{AB} \parallel \overleftrightarrow{EF}$

Skew Lines

are NONCOPLANAR lines that never intersect.



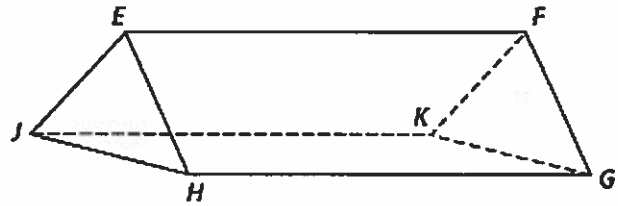
\overleftrightarrow{AD} is skew to \overleftrightarrow{BF}

Practice 1-4 **Segments, Rays, Parallel Lines, and Planes**

Write true or false.

- _____ 1. \overleftrightarrow{XY} is the same as \overleftrightarrow{YX} . _____ 2. \overrightarrow{XY} is the same as \overrightarrow{YX} .
- _____ 3. If \overrightarrow{AB} and \overrightarrow{AC} are opposite rays, then they form a line. _____ 4. If two rays have the same endpoint, then they are collinear.
- _____ 5. If the union of two rays is a line, the rays are opposite rays. *If it's not a line it forms an _____.* _____ 6. If \overrightarrow{PQ} and \overrightarrow{PR} are the same rays, then Q and R are the same point.

Refer to the diagram at the right.

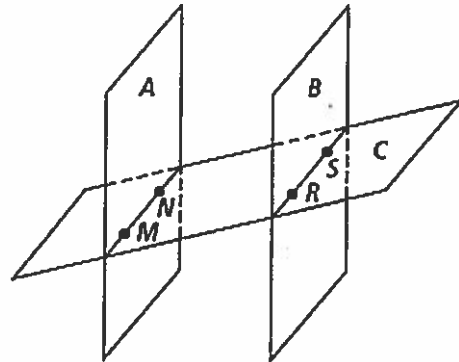


7. Name all segments parallel to \overline{EF} .

8. Name all segments parallel to \overline{FG} .

9. Name three pairs of skew lines. _____

Refer to the diagram at the right.



10. Which pair(s) of planes is (are) parallel?

11. Which pair(s) of planes intersect?

12. Which planes intersect in \overleftrightarrow{MN} ?

13. Which planes intersect in \overleftrightarrow{RS} ?

Refer to the diagram at the right.



14. Name \overrightarrow{EF} in another way. \overrightarrow{EG}

15. How many different segments can be named? _____

16. Name a pair of opposite rays with E as an endpoint. _____

17. Name in two different ways the ray opposite \overrightarrow{FG} . _____

18. Name \overrightarrow{GE} in two other ways. _____

19. Are \overline{EG} and \overline{GE} the same segment? _____

Use a Ruler, Mark Pictures.

Draw each of the following.

20. Copy \overline{AB} (use compass + straightedge)

23. Draw $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$



21. Draw opposite rays and Label them.

24. Draw $\overleftrightarrow{MA} \perp \overleftrightarrow{TH}$ where they intersect point R.

22. Draw and Label skew lines.

