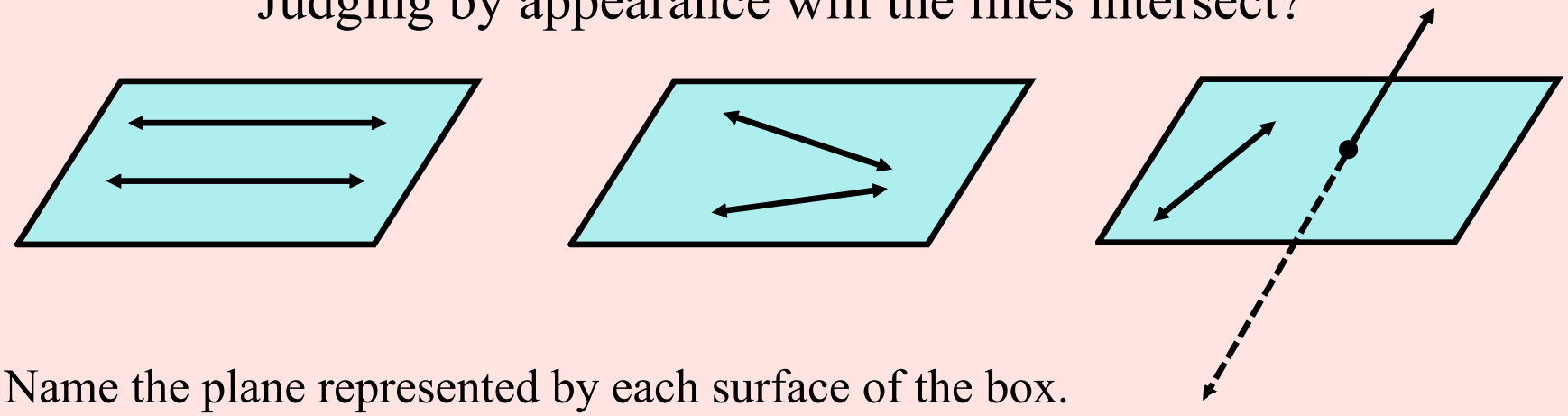
Geometry

Ch. 1 Handout 1.4

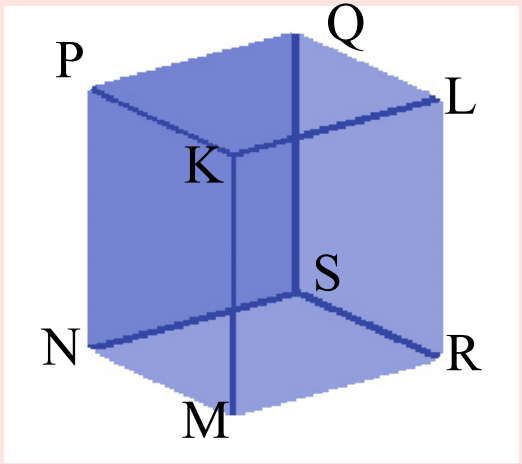
Segments, Rays, Parallel lines, and Planes

Do Now

Judging by appearance will the lines intersect?



Name the plane represented by each surface of the box.



The bottom:

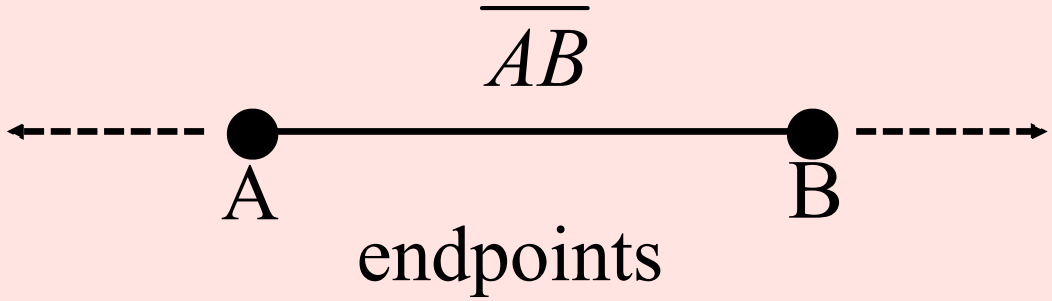
The top:

A pair of parallel planes:

A pair of planes that intersect:

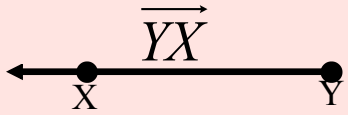
Segment

--is the part of a line consisting of two endpoints and all points between them.



Ray

--is the part of a line consisting of one endpoint and al the points of the line on one side of the endpoints.



Opposite Rays

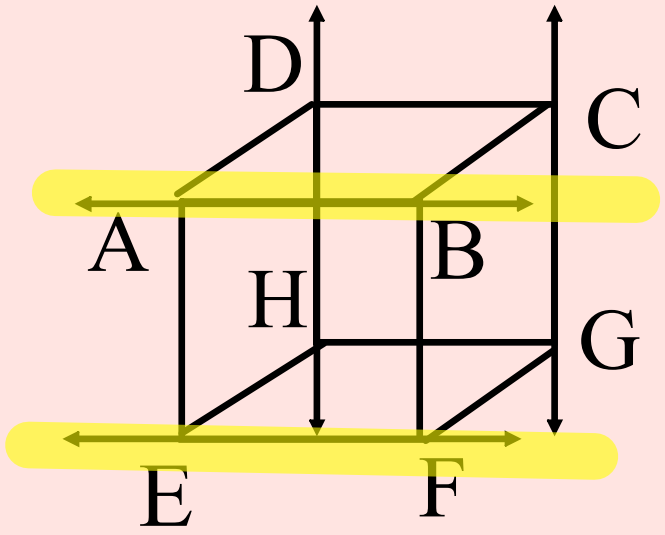
--two collinear rays with the same endpoint

*opposite rays always form a line

$\overrightarrow{RQ}$ and $\overrightarrow{RS}$ are opposite rays

Parallel lines (||)

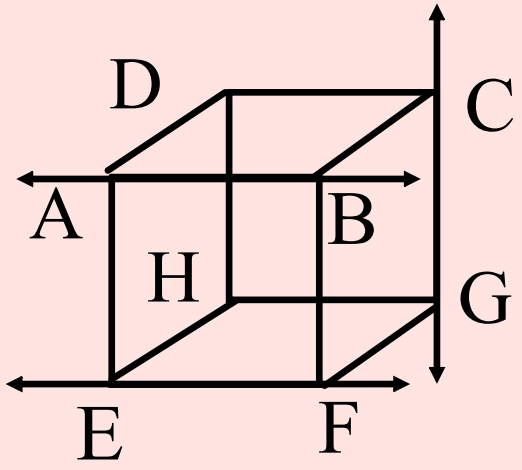
-are coplanar lines that do not intersect.



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

Skew lines

--are noncoplanar; therefore, they are not parallel and do not intesect.



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

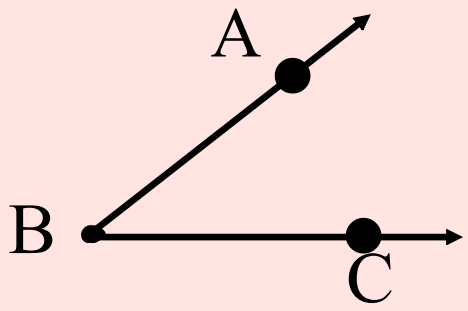
$\overleftrightarrow{AB}$ and $\overleftrightarrow{CG}$ are skew lines

Parallel planes

--are planes that do not intersect.

Plane ABCD is parallel to plane GHIJ

1. Name the segment and rays in the figure.



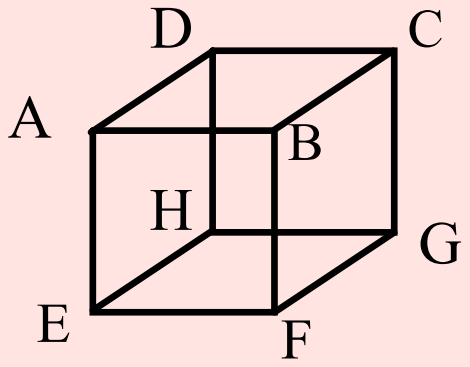
segments: $\overline{BA}$; $\overline{BC}$

rays: $\overrightarrow{BC}$; $\overrightarrow{BA}$

2. Use the figure at the right.

a) Parallel segments lie in the same plane, and the lines that contain them do not intersect. Name all segments that are parallel to $\overleftrightarrow{AE}$.

$\overline{BF}$; $\overline{CG}$, $\overline{DH}$

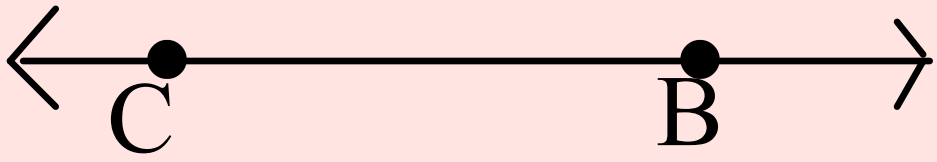


b) Skew segments are segments that do not lie in the same plane. Name all segments that are skew to $\overleftrightarrow{AE}$.

$\overline{DC}$, $\overline{HG}$, $\overline{FG}$, $\overline{BC}$,

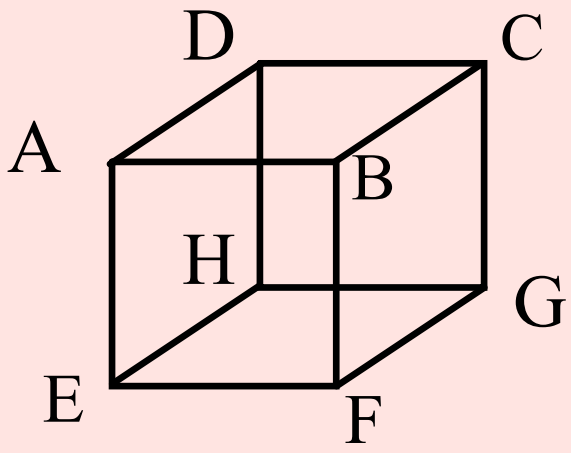
3. Planes are parallel if they don't intersect. Identify a pair of parallel planes in this classroom.

4. In the figure, $\overrightarrow{CB}$ and $\overrightarrow{BC}$ form a line. Are they opposite rays? Explain.



No; don't have same endpoint

5. Use the diagram at the right.

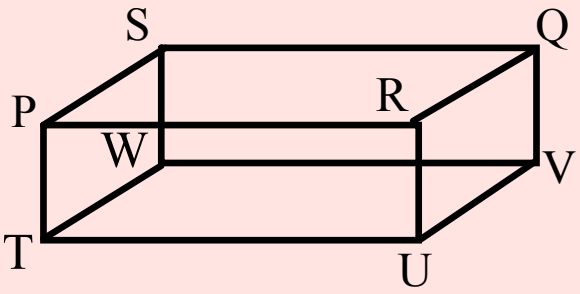


a) Name all labeled segments that are parallel to $\overline{GF}$.

b) Name all labeled segments that are skew to $\overline{GF}$.

c) Name another pair of parallel segments and another pair of skew segments

6. Use the diagram at the right.



a) Name three pairs of parallel lines.

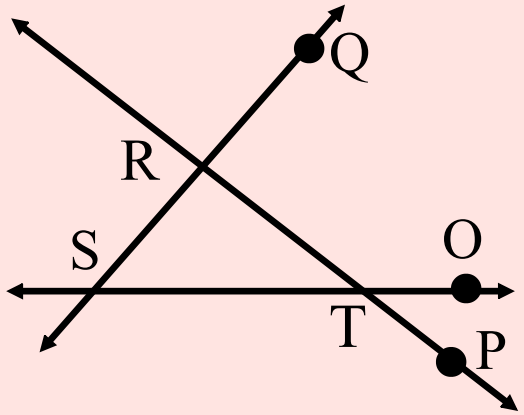
b) Name a line that is parallel to $\overleftrightarrow{PQ}$.

c) Name a line that is parallel to plane QRUV.

7. How are parallel and skew lines alike? How are they different?

	alike	different
Parallel	they don't intersect	Parallel - coplanar
Skew		skew - non-coplanar

8. Use the diagram at the right.



a) Name the segments that form a triangle.

$\overline{ST}$, $\overline{TR}$, $\overline{RS}$

b) Name the rays that have point T as their endpoints.

$\overrightarrow{TR}$, $\overrightarrow{TO}$, $\overrightarrow{TP}$, $\overrightarrow{TS}$

Assignment

1.4 Pgs 25-28 1-7all, 10-23 all, 25-34 all, 43,44,47-49 all