Points, Lines, and Planes

P Geometry

Object	Definition	Picture	Name	"it reads"
Point	A point has no dimension.	• A	А	Point A
Line	A line has one dimension.	l A	\overleftarrow{BA}	Line BA
	Through any two points, there is exactly one line.	B	\overleftarrow{AB}	Line AB Line l
	You can use any two points on a line to name it.		line <i>l</i>	LITET
Collinear Points:	Points on the same line.			
Plane	Plane has two dimensions.	o A	Plane M	Plane M
		M ° c	Plane ABC	Plane ABC
Coplanar Points	Points that are on the same plane.			
	Through any three points not on the same line, there is exactly one plane.			
Opposite Rays	If point C lies on \overrightarrow{AB} between A and B, then \overrightarrow{CA} and \overrightarrow{CB} are opposite rays.	A C B		
Intersectio n	The set of point(s) that two or more geometric figures have in common.	· .		
Segment	The line segment AB, or segment AB (written as \overline{AB}) consists of the endpoints A and B and all	segment	\overline{BA}	Segment BA
	points on \overleftrightarrow{AB} that are between A and B. Note that \overrightarrow{AB} can also be named \overrightarrow{BA} .	endpoint endpoint A B	ĀB	Segment AB
Ray	The ray AB (written as \overrightarrow{AB}) consists of the endpoint A and all points on the AB that lie on the same side of A as B. Note that \overrightarrow{AB} and \overrightarrow{BA}	ray endpoint A B	BÀ	Ray BA
	are different rays.	endpoint A B	\overrightarrow{AB}	Ray AB

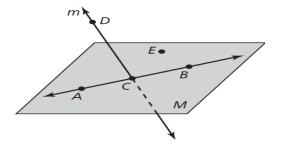
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In Exercises 1–4, use the diagram.

1. Give two other names for \overrightarrow{CD} .

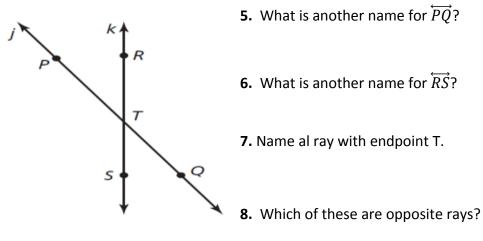
2. Give another name for plane *M*.

3. Name three points that are collinear. Then name a fourth point that is not collinear with these three points.



4. Name a point that is not coplanar with points A, C, E.

In Exercises 5–8, use the diagram.



In Exercises 9 and 11, sketch the figure described.

9. Draw planes *M* and *N* that intersect at line *k*.

10. \overline{AB} and \overrightarrow{BC}

11. line *k* in plane *M*

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