

Practice A

For use with pages 10-16

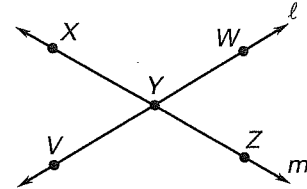
Draw a sketch and label as needed.

1. Three collinear points, A , B , and C .
3. Coplanar points W , X , Y , and Z .

2. \overleftrightarrow{MN} intersecting \overleftrightarrow{PQ} at point R .
4. Opposite rays, \overrightarrow{JK} and \overrightarrow{JC} .

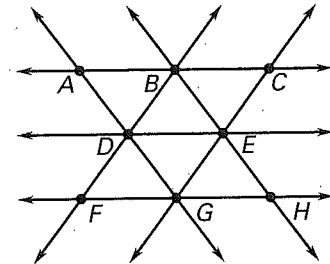
Decide whether the statement is *true* or *false*.

- | | |
|----------------------------------|--|
| 5. Point X lies on line m . | 6. X , Y , and Z are collinear. |
| 7. Point W lies on line m . | 8. X , Y , and Z are coplanar. |
| 9. Point V lies on line l . | 10. V , Y , and X are collinear. |
| 11. Point Y lies on line l . | 12. V , Y , and X are coplanar. |



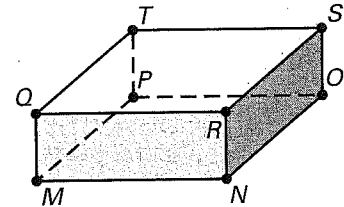
Name a point that is collinear with the given points.

- | | |
|-----------------|-----------------|
| 13. B and E | 14. F and H |
| 15. D and G | 16. A and C |
| 17. H and E | 18. G and C |
| 19. A and D | 20. B and C |



Name a point that is coplanar with the given points.

- | | |
|-------------------------|-------------------------|
| 21. M , N , and O | 22. M , N , and R |
| 23. T , Q , and M | 24. T , Q , and R |
| 25. T , S , and R | 26. T , S , and O |
| 27. O , S , and R | 28. O , P , and M |



In Exercises 29-34, complete the sentence.

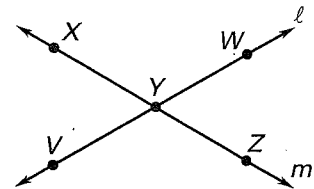
29. Collinear points are points that _____.
30. Coplanar points are points that _____.
31. \overline{XY} consists of the endpoints X and Y and all points on the line \overleftrightarrow{XY} that lie _____.
32. \overrightarrow{MN} consists of the initial point M and all points on the line \overleftrightarrow{MN} that lie _____.
33. Two rays or segments are collinear if they _____.
34. \overrightarrow{PQ} and \overrightarrow{PT} are opposite rays if _____.
35. Explain the difference between \overrightarrow{BC} and \overrightarrow{CB} .

Practice B

For use with pages 10–16

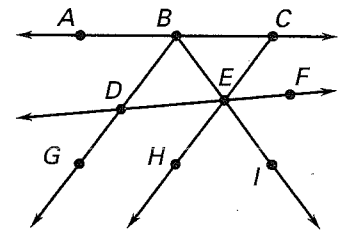
Decide whether the statement is *true* or *false*.

- | | |
|---|--|
| 1. Point X lies on line m . | 2. $X, Y,$ and Z are collinear. |
| 3. Point W lies on line m . | 4. $X, Y,$ and Z are coplanar. |
| 5. \vec{YW} and \vec{YV} are collinear. | 6. \vec{YW} and \vec{YV} are coplanar. |
| 7. \vec{YX} and \vec{YV} are collinear. | 8. \vec{YX} and \vec{YV} are coplanar. |



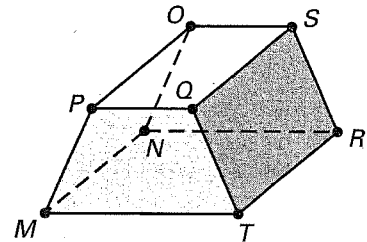
Name a point that is collinear with the given points.

- | | |
|-----------------|-----------------|
| 9. B and E | 10. C and H |
| 11. D and G | 12. A and C |
| 13. H and E | 14. G and B |
| 15. B and I | 16. B and C |



Name a point that is coplanar with the given points.

- | | |
|---------------------|---------------------|
| 17. $M, N,$ and R | 18. $M, N,$ and O |
| 19. $M, T,$ and Q | 20. $Q, T,$ and R |
| 21. $T, R,$ and S | 22. $Q, S,$ and O |
| 23. $O, P,$ and M | 24. $O, S,$ and R |



Complete the sentence.

25. \overline{AB} consists of the endpoints A and B and all points on the line $\leftrightarrow AB$ that lie _____?
26. \vec{PQ} consists of the initial point P and all points on the line $\leftrightarrow PQ$ that lie _____?
27. Two rays or segments are collinear if they _____?
28. \vec{MN} and \vec{ML} are opposite rays if _____?

Sketch the figure described.

29. Three points that are coplanar but not collinear.
30. Three lines that intersect at a single point.
31. Three lines that intersect at two points.
32. Three lines that intersect at three points.
33. Two planes that intersect.
34. Two planes that do not intersect.
35. Two rays that intersect at their initial points.
36. Two rays that do not intersect.