

LESSON
2.4

Practice A

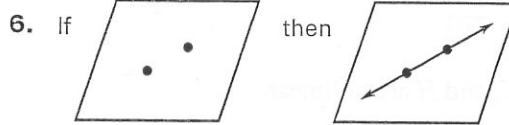
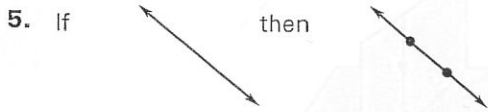
For use with the lesson "Use Postulates and Diagrams"

LESSON 2.4

Which postulate can be represented by the given if-then statement?

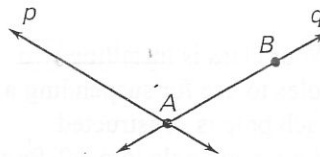
1. If any two points are considered, then there is exactly one line through the points.
2. If any three noncollinear points are considered, then there is exactly one plane through all three points.
3. If a plane is considered, then the plane contains at least three noncollinear points.
4. If a line is considered, then the line contains at least two points.

State the postulate illustrated by the diagram.



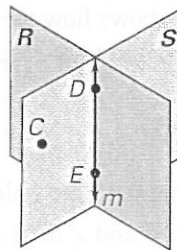
Use the diagram to write an example of the postulate.

9. Postulate 5
10. Postulate 6
11. Postulate 7



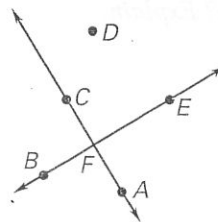
Use the diagram to write an example of the postulate.

12. Postulate 8
13. Postulate 9
14. Postulate 10
15. Postulate 11



Can the statement be assumed to be true from the diagram?

16. $B, C,$ and D are collinear.
17. $\overleftrightarrow{AC} \perp \overleftrightarrow{BE}$
18. $\angle CFE$ and $\angle AFE$ are a linear pair.
19. $\angle CFE \cong \angle AFE$



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Practice A *continued*
For use with the lesson "Use Postulates and Diagrams"

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Sketch a diagram showing the given information.

20. $\overleftrightarrow{PQ} \perp \text{plane } A$

21. \overleftrightarrow{RS} intersects plane B at point T .

Can the statement be assumed to be true from the diagram? Explain.

22. $\overleftrightarrow{EF} \perp \text{plane } S$

23. $\overleftrightarrow{EF} \perp \overleftrightarrow{CG}$

24. D , C , and H are collinear.

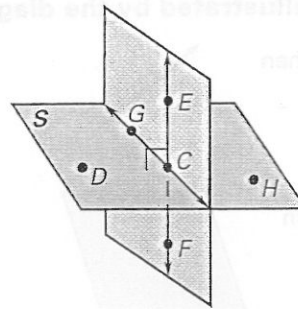
25. E , C , and F are collinear.

26. \overleftrightarrow{EF} intersects plane S at point C .

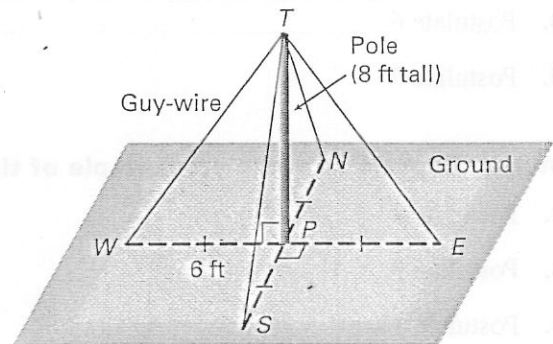
27. $\overleftrightarrow{EF} \perp \overleftrightarrow{DH}$

28. $\overleftrightarrow{EF} \perp \overleftrightarrow{CH}$

29. $\overleftrightarrow{CG} \perp \overleftrightarrow{CD}$



30. **Volleyball Net** Your class is installing two permanent net poles to use for suspending a volleyball net. Each pole is constructed by placing a 10-foot wood pole into a 2-foot hole and cementing the pole in place. Four guy-wires are used to stabilize the pole until the cement sets. The diagram shows how the guy-wires attach to the ground and to the top of the pole.



- What relationship exists between the pole and the ground?
- Can you assume that $\angle WPS$ and $\angle SPE$ are a linear pair?
- What can you assume about the distance from the bottom of the pole to each guy-wire attachment at the ground?
- Is $\angle TPE$ a right angle? Explain.