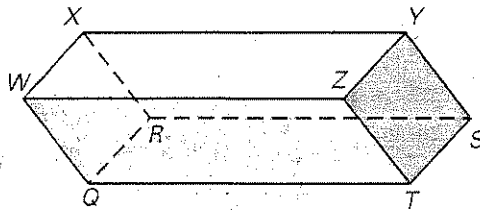


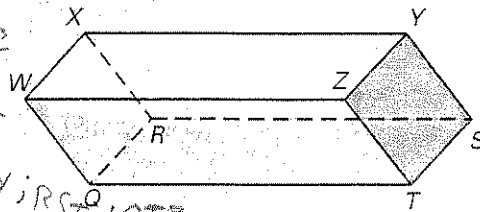
Think of each segment in the diagram as part of a line. Complete the statement with **parallel**, **skew**, or **perpendicular**.

- $\overline{WZ}$  and  $\overline{XY}$  are ? Parallel
- $\overline{WZ}$  and  $\overline{YZ}$  are ?  $\perp$
- $\overline{RS}$  and  $\overline{TZ}$  are ? Skew
- Plane  $WQR$  and plane  $SYT$  are ? Parallel
- Plane  $RQW$  and plane  $TOW$  are ?  $\perp$



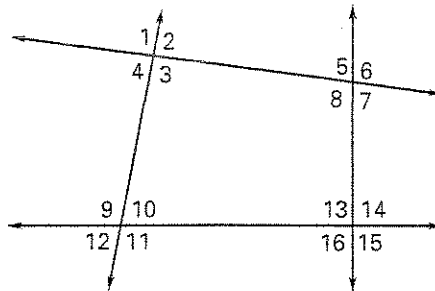
Think of each segment in the diagram as part of a line. Which line(s) or plane(s) appear to fit the description?

- Line(s) parallel to  $\overline{RX}$   $\overline{WQ}$ ;  $\overline{YS}$
- Line(s) perpendicular to  $\overline{TZ}$   $\overline{QR}$ ;  $\overline{WZ}$ ;  $\overline{YZ}$ ;  $\overline{ST}$
- Line(s) skew to  $\overline{XY}$  and containing point  $S$   $\overline{TS}$
- Plane(s) perpendicular to plane  $STZ$   $WZY$ ;  $RSY$ ;  $RSTQ$ ;  $QTE$
- Plane(s) parallel to plane  $QRS$   $WXY$



Classify the angle pair as **corresponding**, **alternate interior**, **alternate exterior**, or **consecutive interior** angles.

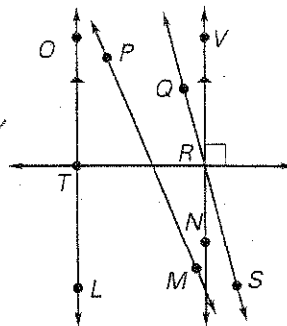
- $\angle 1$  and  $\angle 5$  Corresponding
- $\angle 4$  and  $\angle 6$  Alt. Exter.
- $\angle 16$  and  $\angle 10$  Alt. Int.
- $\angle 11$  and  $\angle 16$  Consecutive Int.
- $\angle 12$  and  $\angle 14$  Alt. Ext.
- $\angle 7$  and  $\angle 13$  Alt. Int.



In Exercises 17–20, use the markings in the diagram.

- Name a pair of parallel lines.  $\overline{OL} \parallel \overline{VN}$
- Name a pair of perpendicular lines.  $\overline{VN} \perp \overline{TR}$
- Is  $\overline{OS} \parallel \overline{PM}$ ? Explain. NO, no parallel markings
- Is  $\overline{OL} \perp \overline{TR}$ ? Explain.

Yes  $\overline{VN} \perp \overline{TR}$   
 $\overline{VN} \parallel \overline{OL}$   
 $\therefore \overline{OL} \perp \overline{TR}$

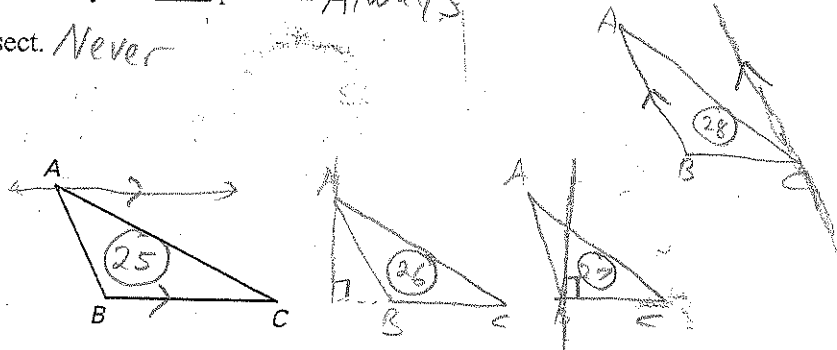


Copy and complete the statement with *sometimes, always, or never*.

21. If two lines are not perpendicular, then they are ? coplanar. *Sometimes*
22. If two lines are coplanar, then they are ? skew. *Never*
23. If three lines are coplanar and never intersect, then they are ? parallel. *Always*
24. If two planes are parallel, then they ? intersect. *Never*

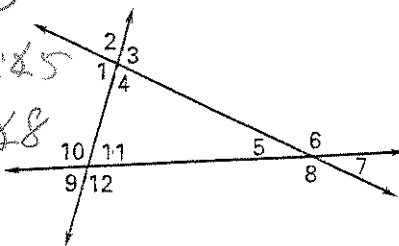
Copy the diagram and sketch the line.

25. Line through  $A$  and parallel to  $\overline{BC}$ .
26. Line through  $A$  and perpendicular to  $\overline{BC}$ .
27. Line through  $B$  and perpendicular to  $\overline{BC}$ .
28. Line through  $C$  and parallel to  $\overline{AB}$ .



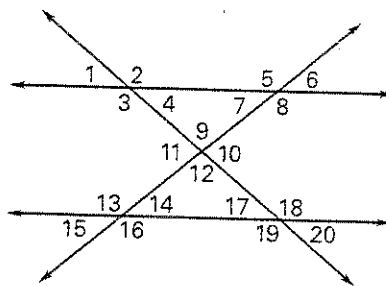
Copy and complete the statement. List all possible correct answers.

29.  $\angle 2$  and ? are corresponding angles. *~~4~~ 6; 410*
30.  $\angle 4$  and ? are consecutive interior angles. *~~4~~ 11; 45*
31.  $\angle 11$  and ? are alternate interior angles. *~~4~~ 1; 48*
32.  $\angle 12$  and ? are alternate exterior angles. *~~4~~ 2*



4. Copy and complete each statement. List all possible correct answers.

- a.  $\angle 1$  and ? are corresponding angles.
- b.  $\angle 13$  and ? are corresponding angles.
- c.  $\angle 14$  and ? are consecutive interior angles.
- d.  $\angle 4$  and ? are consecutive interior angles.
- e.  $\angle 7$  and ? are alternate interior angles.
- f.  $\angle 17$  and ? are alternate interior angles.
- g.  $\angle 6$  and ? are alternate exterior angles.
- h.  $\angle 18$  and ? are alternate exterior angles.

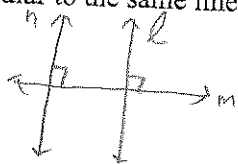


- a) ~~4~~ 11, 417, 45
- b) ~~4~~ 9, 45, 417
- c) ~~4~~ 17, 413, 48
- d) ~~4~~ 7, 49, 418
- e) ~~4~~ 10, 414, 42
- f) ~~4~~ 10, 414, 416
- g) ~~4~~ 15, 411, 43
- h) ~~4~~ 15, 411, 41

2. Draw line  $a$  parallel to line  $b$ . Draw line  $c$  parallel to line  $b$ . What relationship appears to exist between lines  $a$  and  $c$ ? Make a conjecture about two lines that are parallel to the same line. *If two lines are parallel to the same line, then the two lines are parallel*



3. Draw line  $l$  perpendicular to line  $m$ . Draw line  $n$  perpendicular to line  $m$ . What relationship appears to exist between lines  $l$  and  $n$ ? Make a conjecture about two lines that are perpendicular to the same line.



$l \parallel n$

If two lines are perpendicular to the same line then the two lines are parallel.