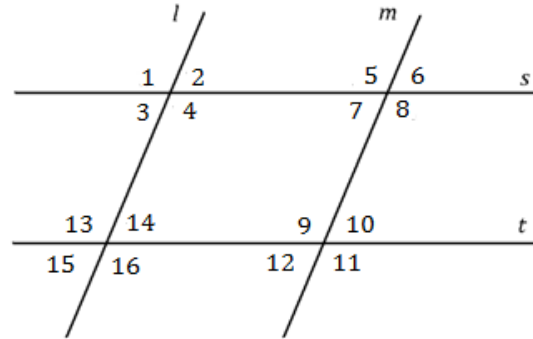


ANSWERS!

DIRECTIONS: Use the following diagram for #1-11. For #1-8, write the letter...

- A** → if the angles are alternate interior angles,
- C** → if the angles are corresponding angles,
- E** → if the angles are alternate exterior angles,
- S** → if the angles are same-side interior angles,
- N** → if the angles are none of these

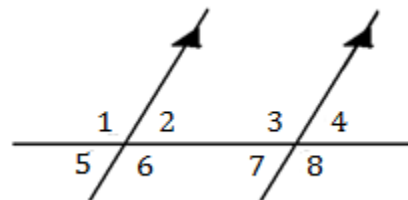


- | | |
|--|--|
| 1. A $\sphericalangle 4$ and $\sphericalangle 13$ | 5. S $\sphericalangle 7$ and $\sphericalangle 9$ |
| 2. C $\sphericalangle 5$ and $\sphericalangle 9$ | 6. E $\sphericalangle 12$ and $\sphericalangle 6$ |
| 3. S $\sphericalangle 14$ and $\sphericalangle 9$ | 7. N $\sphericalangle 5$ and $\sphericalangle 10$ |
| 4. N $\sphericalangle 3$ and $\sphericalangle 11$ | 8. A $\sphericalangle 7$ and $\sphericalangle 10$ |
9. If $s \parallel t$ and $m\angle 11 = 130$, then $m\angle 5 =$ **130** .
10. If $l \parallel m$ and $m\angle 3 = w$, then $m\angle 13 =$ **$180 - w$** .
11. If $l \parallel m$ and $s \parallel t$ and $m\angle 16 = 100$, then $m\angle 5 =$ **100** .

DIRECTIONS: Use the following diagram to answer #12. Remember to use the \sphericalangle symbol.

12. List **all** angles supplementary to $\sphericalangle 1$.

$\sphericalangle 2, \sphericalangle 4, \sphericalangle 5$ and $\sphericalangle 7$

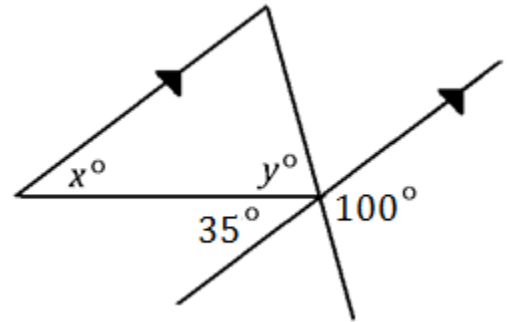


DIRECTIONS: For #13-20, make the statements true using **ALWAYS**, **SOMETIMES**, or **NEVER** (write the entire word).

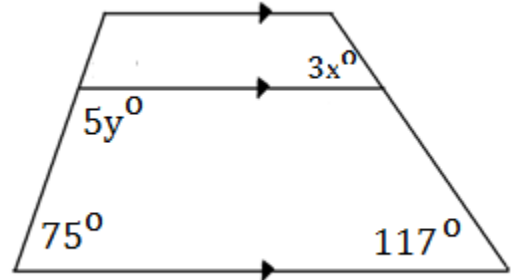
13. If a line is parallel to plane X and also to plane Y , then plane X and plane Y are **sometimes** parallel to each other.
14. Two lines that do not intersect are **sometimes** parallel.
15. Two lines parallel to a third line are **always** parallel to each other.
16. Two nonintersecting lines are **sometimes** skew.
17. If two parallel lines are cut by a transversal, then alternate interior angles are **always** congruent to each other.
18. If two parallel lines are cut by a transversal, then same-side interior angles are **sometimes** congruent to each other.
19. Two planes parallel to a third plane are **always** parallel to each other.
20. In a plane, two lines perpendicular to the same line are **always** parallel to each other.

DIRECTIONS: For # 21-24, solve for the given variables.

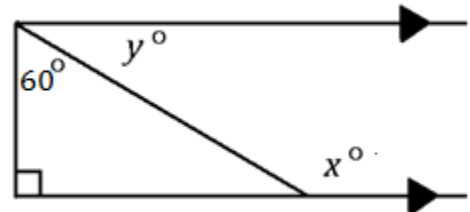
21. $x = 35$ $y = 65$



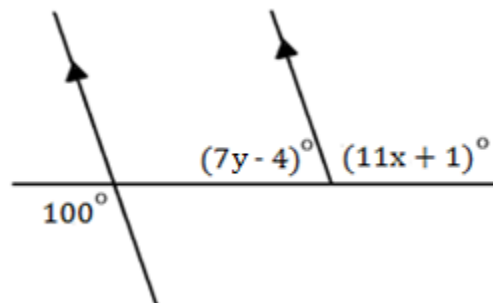
22. $x = 39$ $y = 23$



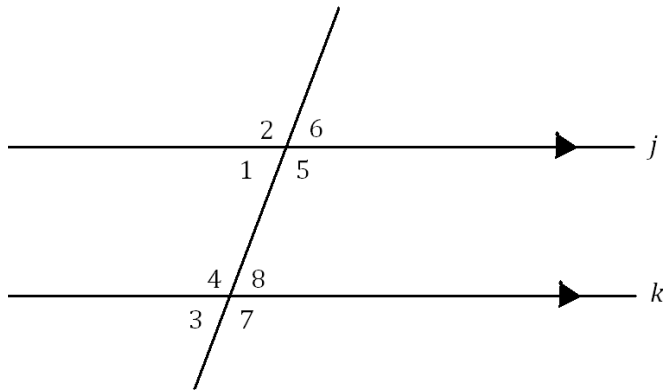
23. $x = 150$ $y = 30$



24. $x = 9$ $y = 12$



DIRECTIONS: For #25-30, supply the missing reasons for the proof.



Given: $j \parallel k$
Prove: $\angle 1$ and $\angle 7$ are supp \angle s

25. $j \parallel k$

26. $\angle 1$ and $\angle 4$ are supp \angle s

27. $m\angle 1 + m\angle 4 = 180$

28. $m\angle 4 = m\angle 7$

29. $m\angle 1 + m\angle 7 = 180$

30. $\angle 1$ and $\angle 7$ are supp \angle s

25. **Given**

26. **If \parallel lines, then s-s int \angle s are supps**

27. **Def of supp \angle s**

28. **Vertical \angle s are \cong**

29. **Substitution**

30. **Def of supp \angle s**

DIRECTIONS: Use the following segments, along with a straightedge and a compass, to construct a segment with the given length. Show all work and color your final segment (use a colored pencil, for example). In addition, you can label your final segment as \overline{AB} . (2 total pts)



31. $3x - y$

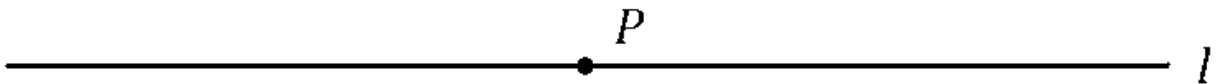
DIRECTIONS: Use a straightedge and a compass to complete the following constructions. **SHOW ALL WORK.** (2 pts each- 4 total pts)

- 32.** Construct a line that passes through the point P and is perpendicular to line l .

A single black dot representing a point, with the letter P written in an italicized font to its upper right.

(Watch <http://youtu.be/I4dh2R6b1N0>)

- 33.** Construct a line that passes through the point P and is perpendicular to line l .



(Watch <http://youtu.be/z-qdyuQ-JSw>)