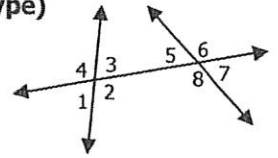


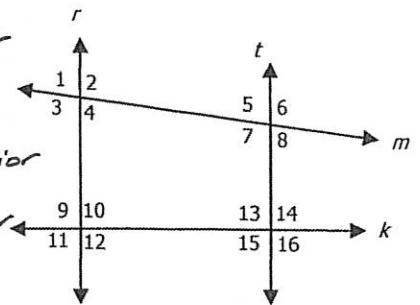
II. Identify the angles that go with the following types. (give all angles for each type)

- 5) Corresponding angles $\angle 1 + \angle 8, \angle 2 + \angle 7$
 $\angle 3 + \angle 6, \angle 4 + \angle 5$ Alternate exterior angles $\angle 4 + \angle 7$
 $\angle 1 + \angle 6$
- 7) Consecutive interior angles $\angle 3 + \angle 5, \angle 2 + \angle 8$
- 8) Alternate interior angles $\angle 3 + \angle 8$
 $\angle 2 + \angle 5$



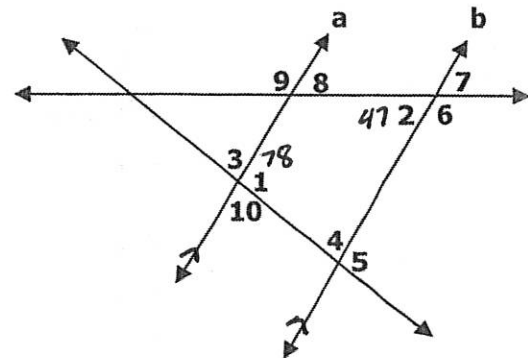
III. Using the figure below, state the transversal that forms each pair of angles. Then identify the special name for the angle pair.

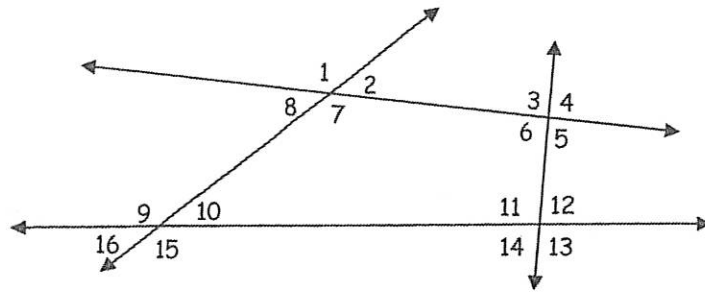
- 9) $\angle 1$ and $\angle 12$ transversal = r special name = Alternate Exterior
- 10) $\angle 2$ and $\angle 10$ transversal = r special name = Corresponding
- 11) $\angle 4$ and $\angle 9$ transversal = r special name = Alternate Interior
- 12) $\angle 6$ and $\angle 3$ transversal = m special name = Alternate Exterior
- 13) $\angle 14$ and $\angle 10$ transversal = k special name = Corresponding
- 14) $\angle 7$ and $\angle 13$ transversal = t special name = Same Side Interior



In figure below $a \parallel b$, $m\angle 1 = 78^\circ$, and $m\angle 2 = 47^\circ$. Find measure of each angle.

- 21) $\angle 3 = 102$ 22) $\angle 4 = 102$
- 23) $\angle 5 = 78$ 24) $\angle 6 = 133$
- 25) $\angle 7 = 47$ 26) $\angle 8 = 47$
- 27) $\angle 9 = 133$ 28) $\angle 10 = 102$



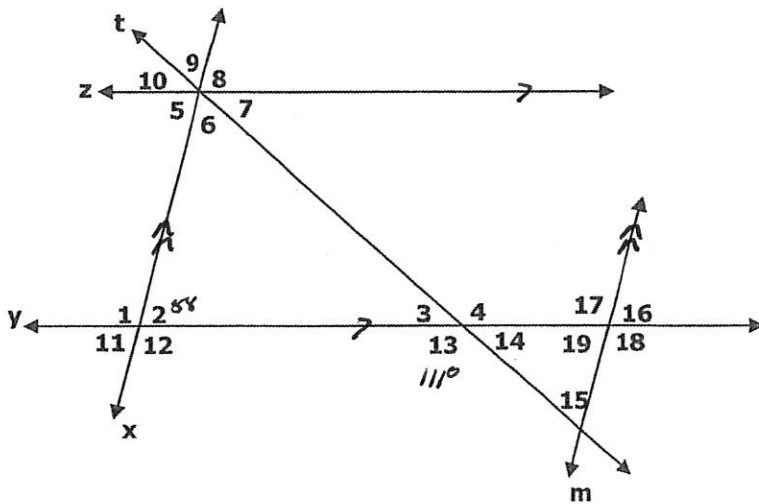


Use the picture above to identify the special name for the angle pairs.

- | | |
|--|---|
| 43) $\angle 2$ and $\angle 6$ <u>Alternate Interior</u> | 49) $\angle 2$ and $\angle 1$ <u>Linear Pair</u> |
| 44) $\angle 1$ and $\angle 9$ <u>Corresponding</u> | 50) $\angle 10$ and $\angle 14$ <u>Alternate Interior</u> |
| 45) $\angle 9$ and $\angle 6$ <u>None</u> | 51) $\angle 11$ and $\angle 6$ <u>Same Side Interior</u> |
| 46) $\angle 9$ and $\angle 13$ <u>Alternate Exterior</u> | 52) $\angle 15$ and $\angle 11$ <u>Alternate Interior</u> |
| 47) $\angle 14$ and $\angle 16$ <u>Corresponding</u> | 53) $\angle 4$ and $\angle 13$ <u>Same Side Exterior</u> |
| 48) $\angle 10$ and $\angle 16$ <u>Vertical Angles</u> | 54) $\angle 3$ and $\angle 11$ <u>Corresponding</u> |

I. If $m\angle 2 = 58^\circ$ and $m\angle 13 = 111^\circ$, then find the missing angle measures. $x \parallel m$, $z \parallel y$

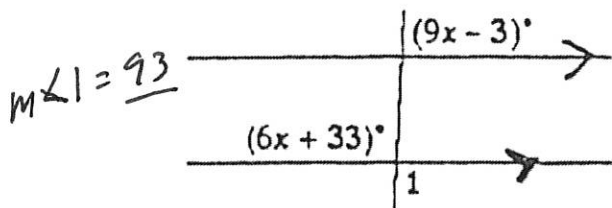
- 55) $m\angle 1 = \underline{122}$
 56) $m\angle 2 = \underline{58^\circ}$
 57) $m\angle 3 = \underline{69}$
 58) $m\angle 4 = \underline{111}$
 59) $m\angle 5 = \underline{58}$
 60) $m\angle 6 = \underline{42}$
 61) $m\angle 7 = \underline{69}$
 62) $m\angle 8 = \underline{58}$
 63) $m\angle 9 = \underline{42}$
 64) $m\angle 10 = \underline{69}$
 65) $m\angle 11 = \underline{58}$
 66) $m\angle 12 = \underline{122}$
 67) $m\angle 13 = \underline{111^\circ}$
 68) $m\angle 14 = \underline{69}$
 *69) $m\angle 15 = \underline{53}$
 70) $m\angle 16 = \underline{58}$ (16-19 look at line x and m)
 71) $m\angle 17 = \underline{122}$
 72) $m\angle 18 = \underline{122}$
 73) $m\angle 19 = \underline{58}$



$$\angle 14 + \angle 19 + \angle 15 = 180$$

$$69 + 58 + \angle 15 = 180$$

For the given figures, find the value of x and the measure of $\angle 1$.



$$9x - 3 + 6x + 33 = 180$$

$$15x + 30 = 180$$

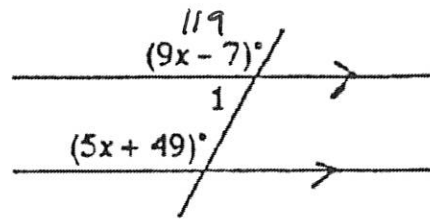
$$15x = 150$$

$$x = 10$$

$$6(10) + 33$$

$$60 + 33$$

$$93$$



$$119 + m\angle 1 = 180$$

$$m\angle 1 = 61$$

$$9x - 7 = 5x + 49$$

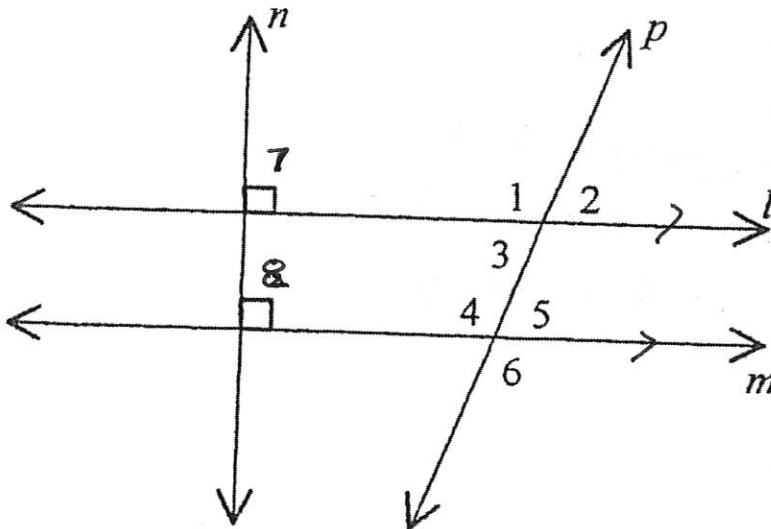
$$4x - 7 = 49$$

$$4x = 56$$

$$x = 14$$

Given: $l \perp n$, $m \perp n$

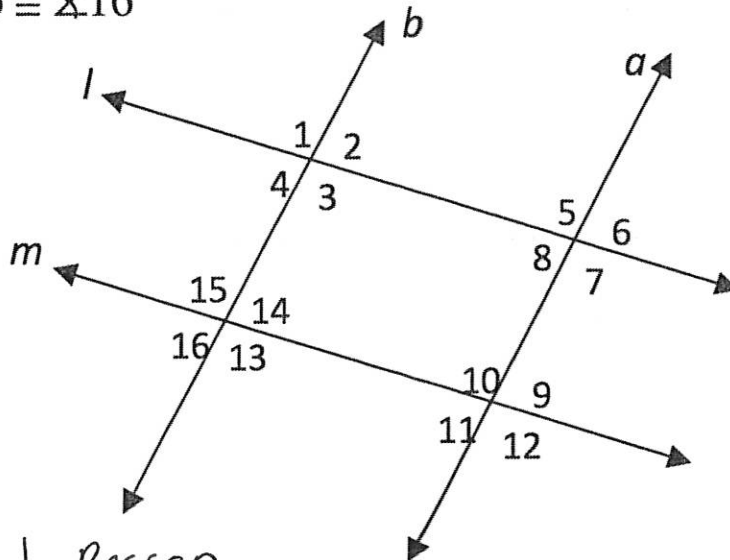
Prove: $\angle 3$ and $\angle 6$ are supplementary



Statement	Reason
1) $l \perp n$ and $m \perp n$	1) Given
2) $\angle 7 \cong \angle 8$	2) All Right \angle 's are \cong .
3) $l \parallel m$	3) If corresponding \angle 's are \cong lines are \parallel
4) $m\angle 3 + m\angle 4 = 180$	4) Same side Interior \angle 's are Supplementary
5) $\angle 6 \cong \angle 4$	5) Vertical \angle 's
6) $m\angle 3 + m\angle 6 = 180$	6) Substitution property
7) $\angle 3 + \angle 6$ are Supplementary	7) Def of Supplementary \angle 's.

Given: $a \parallel b$; $l \parallel m$

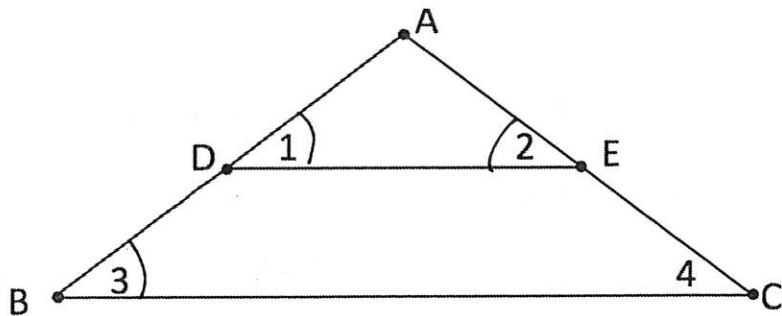
Prove: $\angle 6 \cong \angle 16$



Statement	Reason
1) $a \parallel b$, $l \parallel m$	1) Given
2) $\angle 6 \cong \angle 2$	2) Corresponding \angle 's \cong
3) $\angle 2 \cong \angle 16$	3) Alternate Exterior \angle 's \cong
4) $\angle 6 \cong \angle 16$	4) Substitution Property

4. Given: $m\angle 1 = m\angle 3$
 $m\angle 1 = m\angle 2$

Prove: $m\angle 3 = m\angle 4$

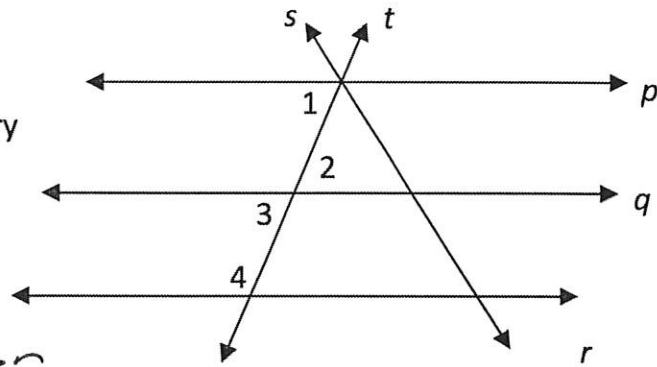


Statement	Reason
1) $m\angle 1 = m\angle 3$ $m\angle 1 = m\angle 2$	1) Given
2) $\overline{DE} \parallel \overline{BC}$	2) If Corresponding \angle 's \cong then lines are \parallel .
3) $\angle 2 \cong \angle 4$	3) Corresponding \angle 's \cong .
4) $\angle 3 \cong \angle 4$	4) Substitution Prop

5. Given: $\angle 1$ & $\angle 4$ are supplementary

$q \parallel r$

Prove: $p \parallel q$



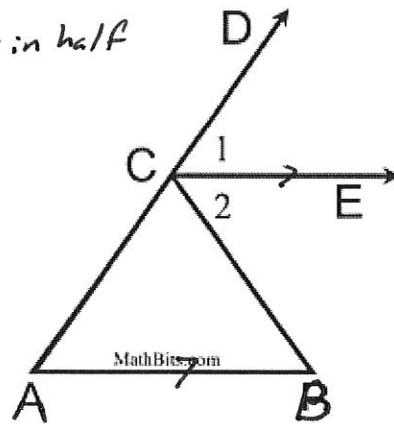
Statement	Reason
1) $\angle 1 + \angle 4$ are supplementary	1) Given
$q \parallel r$	
2) $p \parallel r$	2) If same-side interior \angle 's are \cong .
3) $m\angle 1 + m\angle 4 = 180$	3) Def of Supplementary \angle 's
4) $m\angle 3 + m\angle 4 = 180$	4) Same Side Interior \angle 's are Supplementary
5) $m\angle 1 + m\angle 4 = m\angle 3 + m\angle 4$	5) Substitution Property
6) $m\angle 1 = m\angle 3$	6) Subtraction Property
7) $p \parallel q$	7) If corresponding \angle 's are \cong then lines are \parallel .

Given: \overline{ACD} , \overline{CE} bis $\angle DCB$

$\overline{CE} \parallel \overline{AB}$

Prove: $\angle A \cong \angle B$

\rightarrow bis \rightarrow bisects
 \rightarrow cut in half



Proof

Statement	Reason
1) $\overline{CE} \parallel \overline{AB}$ \overline{CE} bisects $\angle DCB$	1) Given
2) $\angle 1 \cong \angle 2$	2) Definition of Bisector
3) $\angle 1 \cong \angle A$	3) Corresponding \angle 's are \cong
4) $\angle 2 \cong \angle B$	4) Alternate Interior \angle 's are \cong .
5) $\angle A \cong \angle B$	5) Substitution property

