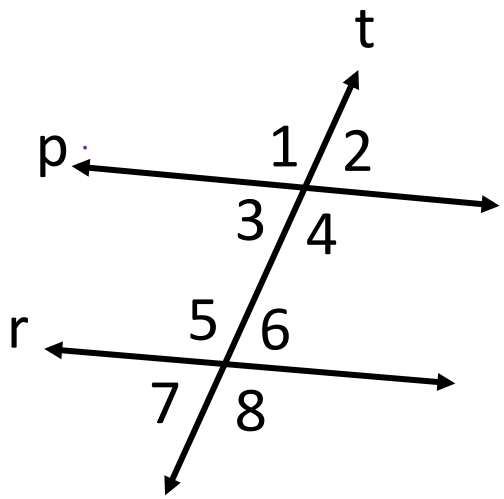
Angle Properties Proofs Name:_____ Block:_____

1. Given: $p \parallel r$
   $m\angle 4 = 103°$

Find the measurements of all other angles.

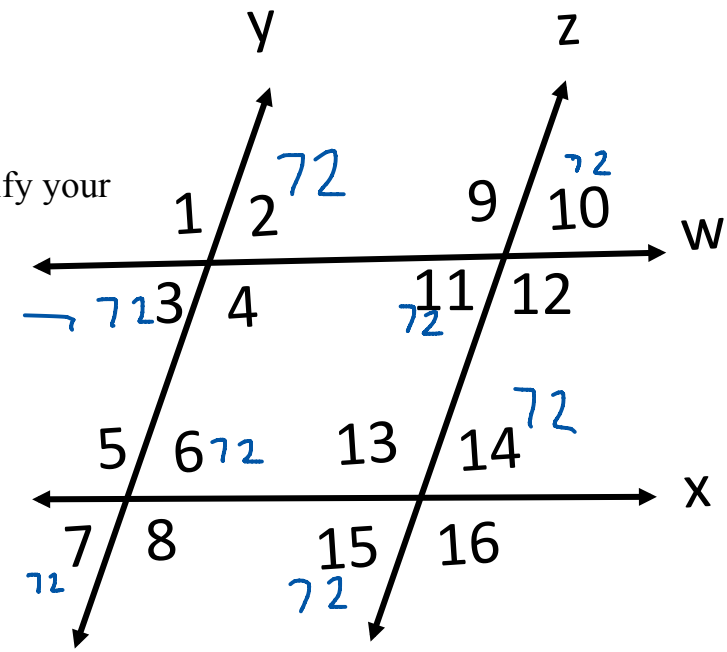
$m\angle 1 =$ 103°
$m\angle 2 =$ 77°
$m\angle 3 =$ 77°
$m\angle 5 =$ 103°
$m\angle 6 =$ 77°
$m\angle 7 =$ 77°
$m\angle 8 =$ 103°



2. Given: $y \parallel z$
   $w \parallel x$
   $m\angle 11 = 72°$

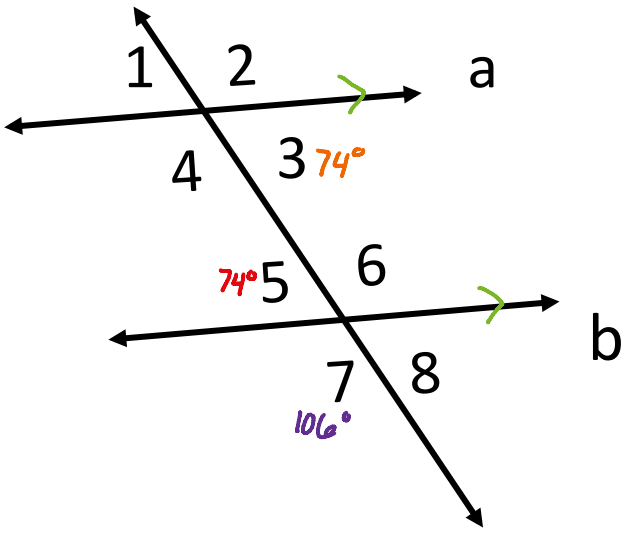
Find the measurements of other angles and justify your reasoning

$m\angle 1 =$ 108° because linear pair w/ ∠2
$m\angle 2 =$ 72° because vertical angles to ∠3
$m\angle 3 =$ 72° because alt interior angles to ∠6
$m\angle 5 =$ 108° because corresponding w/ ∠1
$m\angle 6 =$ 72° because alt interior angles to ∠15
$m\angle 7 =$ 72° because vertical angles to ∠7
$m\angle 8 =$ 108° because vertical angles w/ ∠5
$m\angle 9 =$ 108° because corresponding angles w/ ∠1
$m\angle 10 =$ 72° because vertical angles w/ ∠11
$m\angle 12 =$ 108° because vertical angles w/ ∠9
$m\angle 13 =$ 108° because corresponding angles w/ 9
$m\angle 14 =$ 72° because alternate interior angles to ∠11
$m\angle 15 =$ 72° because vertical to ∠15
$m\angle 16 =$ 108° because vertical angles w/ ∠13



Angle Properties Proofs Name:_____ Block:_____

Given: $a \parallel b$
$m\angle 3 = 74°$
Prove: $m\angle 7 = 106°$



Statements	Reasoning
a ∥ b	given
$m\angle 3 = 74°$	given
$m\angle 5 = 74°$	alternate interior angles
$m\angle 7 = 106°$	linear pair of angles

Statements	Reasoning
y ∥ z	given
w ∥ x	given
$m\angle 10 = 56°$	given
$m\angle 11 = 56°$	vertical angles to ∠10
$m\angle 13 = 124°$	Same side interior angles
$m\angle 5 = 124°$	Corresponding angles to ∠13

Given: $y \parallel z$
$w \parallel x$
$m\angle 10 = 56°$
Prove: $m\angle 5 = 124°$