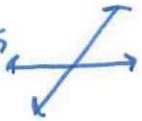
2-4 Vertical Angles

Objective: Find the measures of angles formed by intersecting lines

2 lines that cross 

Vertical angles: two non-adjacent angles formed by intersecting lines

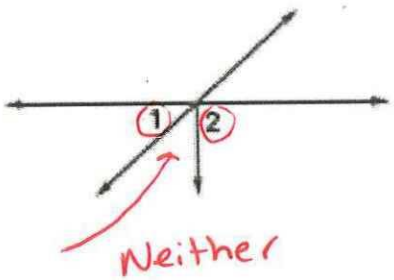
across from each other

Linear Pair: two adjacent angles that form a line

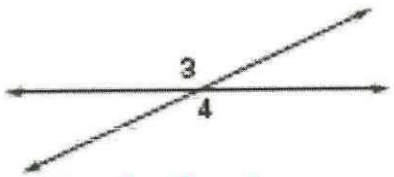
$\angle 5 + \angle 6 = 180$ 

Examples:

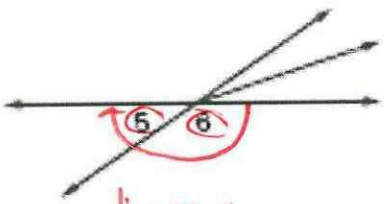
Determine whether the labeled angles are vertical angles, a linear pair or neither.

1. 

Neither

2. 

Vertical angle

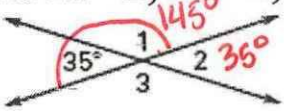
3. 

linear pair

Vertical Angle Th.: vertical angles are congruent

Same equal

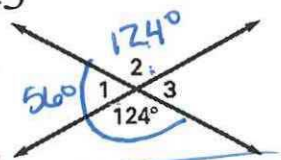
Find m<1, m<2, and m<3

4. 

$\angle 1 + 35 = 180$ $\angle 1 = 145$

$\angle 2 = 35°$

$\angle 3 = 145°$

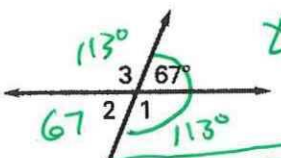
5. 

$\angle 2 = 124°$

$\angle 1 + 124 = 180$

$\angle 1 = 56°$

$\angle 3 = 56°$

6. 

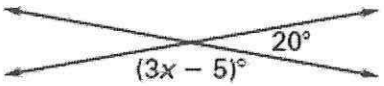
$\angle 1 + 67 = 180$ $-67 \quad -67$

$\angle 1 = 113°$

$\angle 2 = 67°$

$\angle 3 = 113°$

Find x

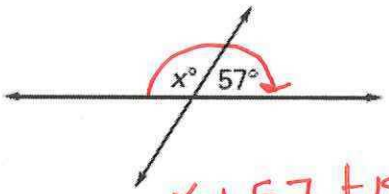
7. 

$(3x-5)+20=180$

$3x+15=180$
$-15 \quad -15$

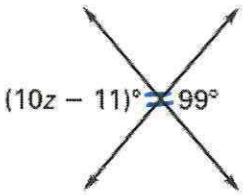
$\frac{3x}{3}=\frac{165}{3}$

$x=55$

8. 

$x+57=180$
$-57 \quad -57$

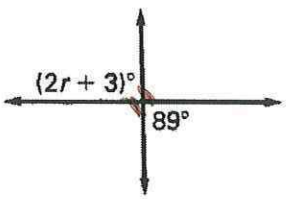
$x=123$

9. 

$10z-11=99$
$+11 \quad +11$

$\frac{10z}{10}=\frac{110}{10}$

$z=11$

10. 

$2r+3=89$
$-3 \quad -3$

$\frac{2r}{2}=\frac{86}{2}$

$r=43$

p78 #1-33, 41-53