

# 1.6 - Angle Relationships Part 2

## Mental Floss - Monday Sept 17<sup>th</sup>

Find the measure of the two angles shown. Round your answers to the nearest tenth of a degree.

$5x + 2x = 180$   
 $7x = 180$   
 $x = \frac{180}{7}$   
 $x = 25.7$

$5(25.7) = 128.5^\circ$   
 $2(25.7) = 51.4^\circ$   
 $128.5^\circ$

## Mental Floss #2 - Monday Sept 17<sup>th</sup>

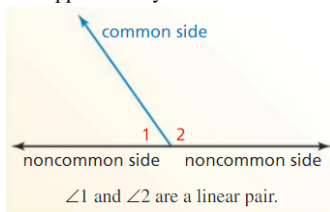
Find the angle formed by the hands of a clock at:

**5:30**  
 $\frac{1}{2} \cdot 30 = 15^\circ$

**3:40**  
 $\frac{40}{60} \cdot 30 = 20^\circ$   
 $4 \cdot 30 + 10 = 130^\circ$

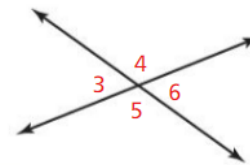
### Linear Pair

- Two *adjacent angles* whose noncommon sides are opposite rays.
- The angles are supplementary.



### Vertical Angles

- Angles whose sides form two pairs of opposite rays.



$\angle 3$  and  $\angle 6$  are vertical angles.  
 $\angle 4$  and  $\angle 5$  are vertical angles.

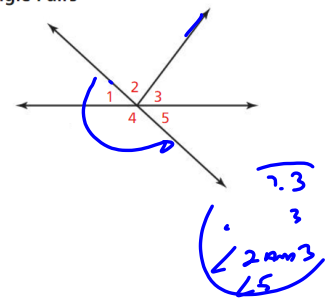
### Quick Definitions

- Complementary** = 2  $\angle$ 's that add up to  $90^\circ$
- Supplementary** = 2  $\angle$ 's that add up to  $180^\circ$
- Linear Pair** = 2 adjacent  $\angle$ 's that form a straight angle
- Vertical Angles** = 2  $\angle$ 's across from each other when 2 segments or lines intersect.

### EXAMPLE 2 Identifying Angle Pairs

Identify all the linear pairs and all the vertical angles in the figure.

**LINEAR PAIRS**  
 $\angle 4 + \angle 5$     $\angle 1 + \angle 4$   
**VERTICAL  $\angle$ 'S**  
 $\angle 1 + \angle 5$



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### EXAMPLE 3 Finding Angle Measures in a Linear Pair

Two angles form a linear pair. The measure of one angle is five times the measure of the other angle. Find the measure of each angle.

180

$$x + 5x = 180$$
$$6x = 180$$
$$x = 30$$

ANGLE =  $30^\circ$   
SUPP =  $150^\circ$   
 $180^\circ$  ✓

