5R Parallel Lines Review

Name: _____Per: _____

SHOW YOUR WORK FOR FULL CREDIT. NO WORK, NO CREDIT. NO WORK IN PEN.

For questions 1-4 **use the angle measures** $\measuredangle A = 30°, \measuredangle B = 120°, \measuredangle C = 60°$**, and** $\measuredangle D = 150°$**.** Match each statement with the proper term, listed on the right. Each answer may be used more than once.

1. $\angle A$ and $\angle B$ are called _____

2. $\angle A$ and $\angle C$ are called _____

3. $\angle A$ and $\angle D$ are called _____

4. $\angle B$ and $\angle C$ are called _____

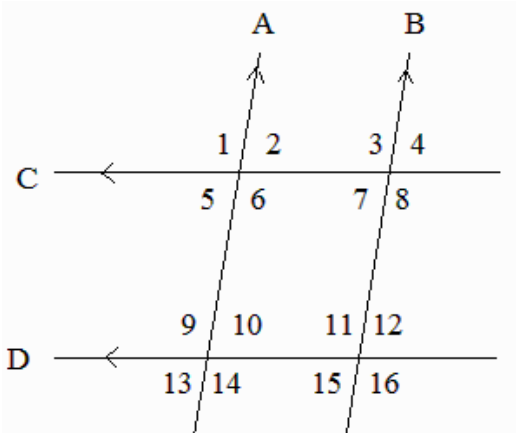
A. Complementary Angles

B. Congruent Angles

C. Supplementary Angles

D. None of these

For questions 5-13, use **the image** to find the measure of the following angles (**$A||B$ and $C||D$**).
Explain your reasoning.



5. If $\measuredangle 1 = 130°$, find $\measuredangle 5$ =
   Explain

6. If $\measuredangle 4 = 47°$, find $\measuredangle 12$ =
   Explain

7. If $\measuredangle 14 = 123°$, find$\measuredangle 9$.
   Explain

8. If $\measuredangle 13 = 116°$, find $\measuredangle 1$.
   Explain

9. If $\measuredangle 12 = 66°$, find $\measuredangle 6$.
   Explain

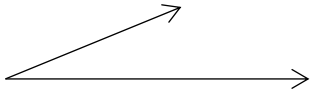
10. If $\measuredangle 9 = (3x - 15)°$ and $\measuredangle 10 = (12x)°$,
    a. Name the relationship between the 2 angles. _____
    b. Set up the equation to find the unknown. _____
    c. Find x
    d. Find $\measuredangle \mathbf{9}$
    e. Find $\measuredangle \mathbf{10}$

11. If $\measuredangle 14 = (4y + 9)°$ and $\measuredangle 8 = (2y + 27)°$.
    a. Name the relationship between the 2 angles. _____
    b. Set up the equation to find the unknown. _____
    c. Find y
    d. Find $\measuredangle \mathbf{8}$
    e. Find $\measuredangle \mathbf{14}$

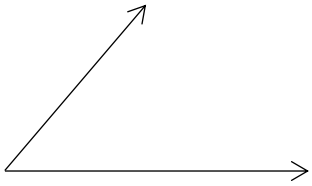
12. If $\measuredangle 13 = 2(y + 5)°$ and $\measuredangle 3 = (3y)°$.
    a. Name the relationship between the 2 angles. _____
    b. Set up the equation to find the unknown. _____
    c. Find y
    d. Find $\measuredangle \mathbf{13}$
    e. Find $\measuredangle \mathbf{3}$

13. If $\measuredangle 3 = (3y + 7)°$ and $\measuredangle 16 = 4(y - 9)°$.
    a. Name the relationship between the 2 angles. _____
    b. Set up the equation to find the unknown. _____
    c. Find y
    d. Find $\measuredangle \mathbf{3}$
    e. Find $\measuredangle \mathbf{16}$

14. Construct an angle **congruent** to the given angle.



15. Construct a **MIRROR** image of the following angle.

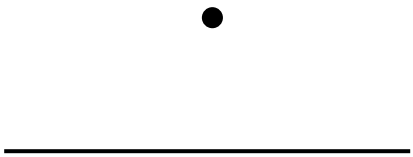


16. Construct the angle onto the given line segment. List your steps for how you constructed the angle.

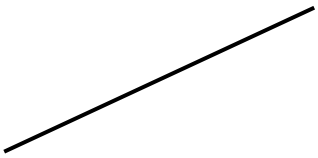
_____
_____
_____
_____
_____
_____

Perform the following constructions using a **compass and straight edge only**. Show all necessary markings.

17. Construct a parallel line through the given point.



18. Construct a line parallel to the given line segment.



Extra Credit: Construct an angle equal to ∠Q + ∠R.