

7A Angle Relations

Name: _____ Per: _____

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

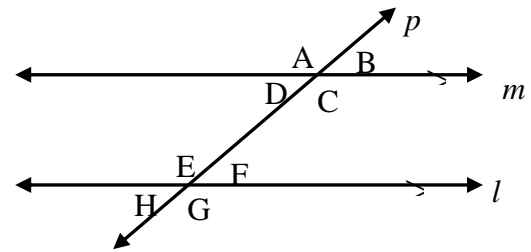
If the $\angle 1 = 65^\circ$, $\angle 2 = 25^\circ$, $\angle 3 = 115^\circ$, and $\angle 4 = 115^\circ$, fill in the following based on these measurements:

A. Complementary Angles B. Congruent Angles C. Supplementary Angles D. None of these

1. $\angle 1$ and $\angle 2$ are _____
2. $\angle 1$ and $\angle 3$ are _____
3. $\angle 1$ and $\angle 4$ are _____
4. $\angle 2$ and $\angle 3$ are _____
5. $\angle 3$ and $\angle 4$ are _____

IF $l \parallel m$, give an example of each set of angles (from the image below) **Circle** if the angles would be **congruent** or **supplementary**.

6. Alternate Interior Angles: $\angle C$ and _____ Congruent Supplementary
7. Alternate Exterior Angle $\angle H$ and _____ Congruent Supplementary
8. Same Side Interior $\angle D$ and _____ Congruent Supplementary
9. Same Side Exterior $\angle B$ and _____ Congruent Supplementary
10. Vertical $\angle G$ and _____ Congruent Supplementary
11. Corresponding $\angle F$ and _____ Congruent Supplementary
12. a. Supplementary $\angle E$ and _____ Find two relationship
- b. Supplementary $\angle E$ and _____
13. a. Adjacent $\angle H$ and _____ Find two relationships
- b. Adjacent $\angle H$ and _____
14. Linear Pair $\angle D$ and _____ Congruent Supplementary



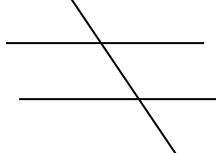
Mark or sketch an example of the following relationships. Tell what you know (if anything) about their angle measures.

15. Vertical: 16. Adjacent: 17. Complementary 18. Supplementary

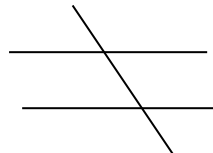
Angles are _____ Angles are _____ Angles are _____ Angles are _____

When parallel lines are cut by a transversal, eight angles are formed with special relations. **Mark** at least ONE example of the following relationship:

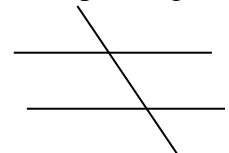
19. Alternate Interior Angle:



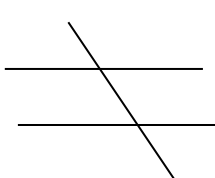
21. Same Side Interior:



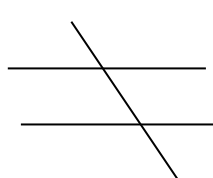
23. Corresponding:



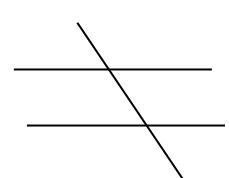
20. Alternate Exterior Angle:



22. Same Side Exterior Angle:

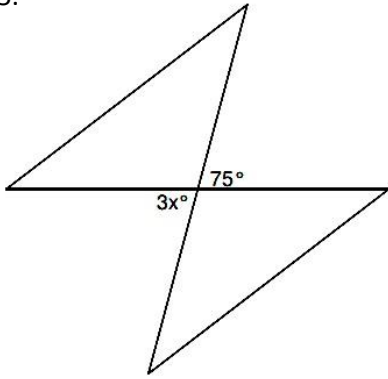


24. Linear Pair:

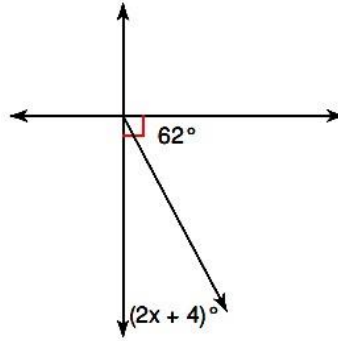


Name the relation of the angles that are marked (Do not just say congruent or supplementary). Then find x , and find all angle measures.

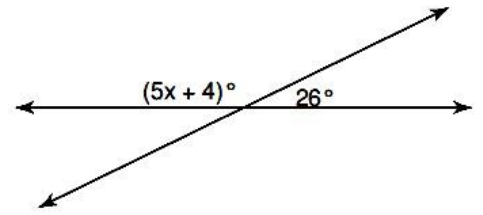
25.



26.



27.



Rel: _____ $x =$ _____

Rel: _____ $x =$ _____

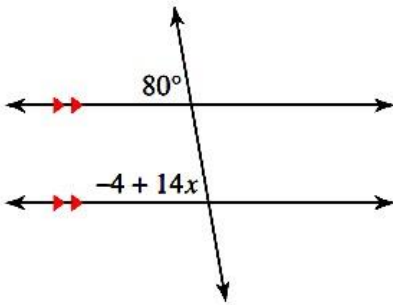
Rel: _____ $x =$ _____

Angle: _____

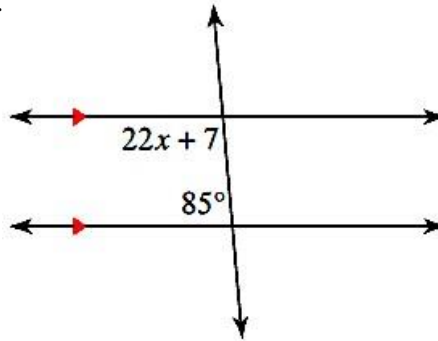
Angle: _____

Angle: _____

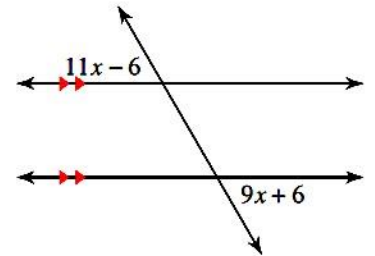
28.



29.



30.



Rel: _____ $x =$ _____

Rel: _____ $x =$ _____

Rel: _____ $x =$ _____

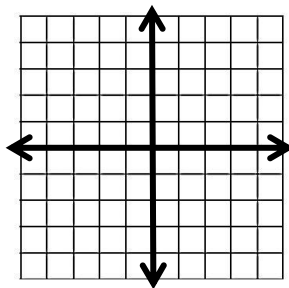
Angle: _____

Angle: _____

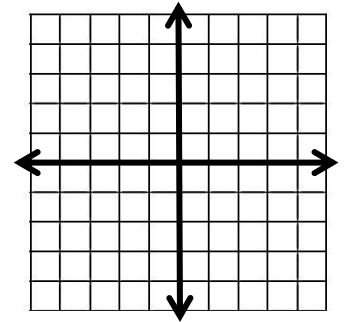
Angles: _____

Solve the following system of equation by **graphing** and **algebraically**.

31.
$$\begin{cases} 3y + 6 = -2x \\ -\frac{8}{3}x + 4 = y \end{cases}$$



32.
$$\begin{cases} x - 4y = 12 \\ x + y = 2 \end{cases}$$

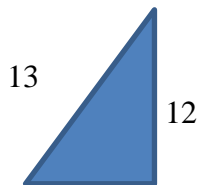


Solution: _____

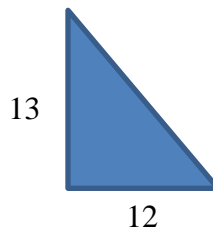
Solution: _____

Given the following **right** triangles, find the **EXACT** missing side lengths. **Simplify** if possible.

33.



34.



35.

