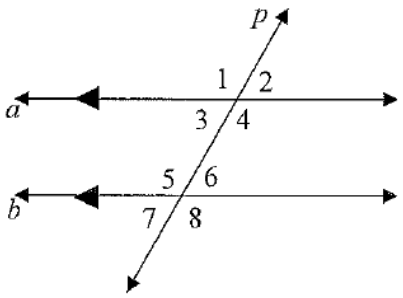
# Parallel Lines and Slope - Review

**1. $a \parallel b$ and $p$ is a transversal. Fill in the blanks describing the angle relationships with $\angle 3$.**




$\angle 3$ and $\angle$_____ are a linear pair

$\angle 3$ and $\angle$_____ are a linear pair

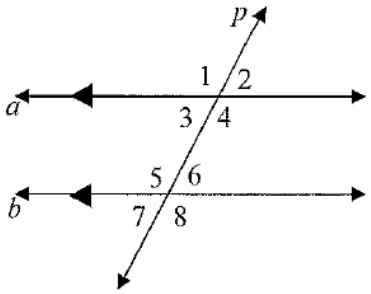
$\angle 3$ and $\angle$_____ are vertical angles

$\angle 3$ and $\angle$_____ are corresponding angles

$\angle 3$ and $\angle$_____ are alternate interior angles

$\angle 3$ and $\angle$_____ are consecutive interior angles

**2. $a \parallel b$ and $p$ is a transversal. If $m\angle 1 = 140°$, find the measure of each angle giving one reason for each answer.**



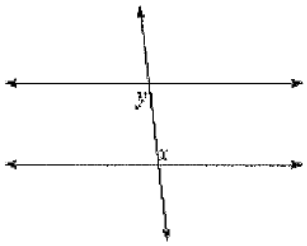

$m\angle 2 =$ _____ $m\angle 3 =$ _____

$m\angle 4 =$ _____ $m\angle 5 =$ _____

$m\angle 6 =$ _____ $m\angle 7 =$ _____ $m\angle 8 =$ _____

**Identify each pair of angles as corresponding, alternate interior, alternate exterior, consecutive interior, or vertical.**

3)

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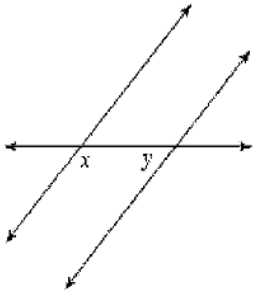
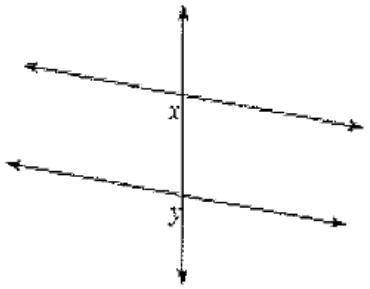


# Parallel Lines and Angles …. Set 2 (without Answers)

5)

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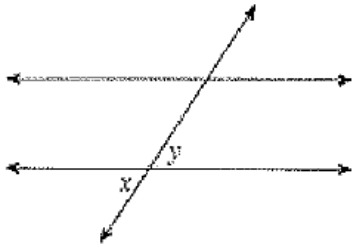


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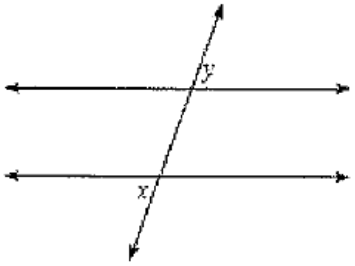


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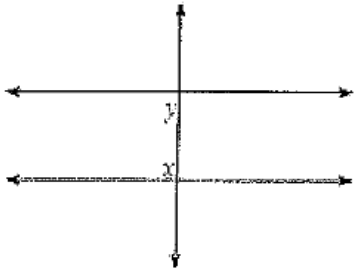
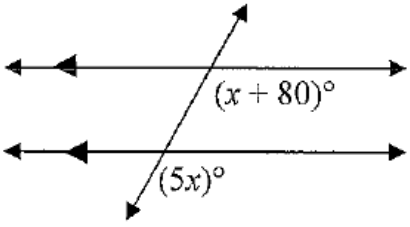



**Identify the type of angles and their relationship. Write an equation and solve for x.**

9.

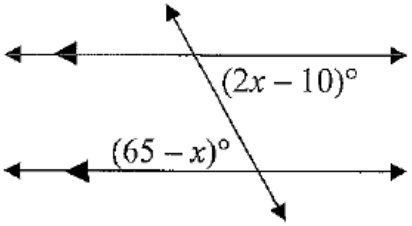



type of angles: _____

relationship: _____

$x =$ _____

10.



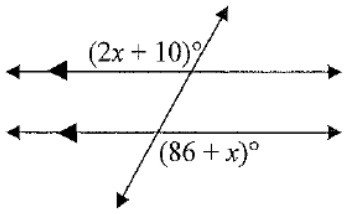

type of angles: _____

relationship: _____

$x =$ _____

# Parallel Lines and Angles …. Set 2 (without Answers)

11.

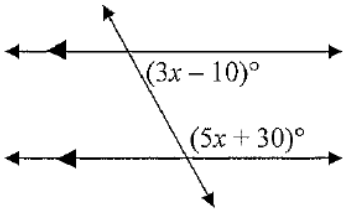



type of angles: _____

relationship: _____

$x =$ _____

12.




type of angles: _____

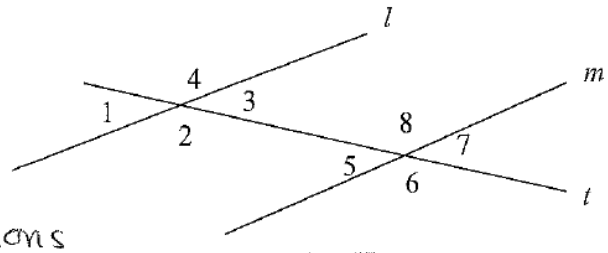
relationship: _____

$x =$ _____

**13. Write a 2 column proof.**

Given: $l \parallel m$, $m\angle 1 = 2x - 14$, $m\angle 7 = 42^\circ$

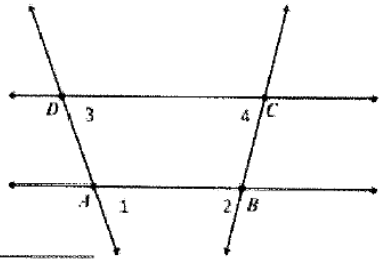
Prove: $x = 28^\circ$




| Statements | Reasons |
|---|---|
| 1. | 1. |
| 2. $m\angle 1 = m\angle 7$ | 2. |
| 3. $2x - 14 = 42$ | 3. |
| 4. $2x - 14 + 14 = 42 + 14$ | 4. |
| 5. $2x = 56$ | 5. |
| 6. $\frac{2x}{2} = \frac{56}{2}$ | 6. |
| 7. $x = 28$ | 7. |

**14. Write a 2-column proof:**

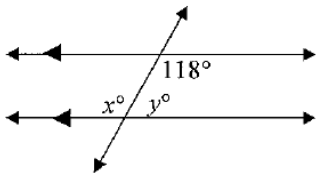
Given that $\overleftrightarrow{AB} \parallel \overleftrightarrow{DC}$ and $m\angle 1 = m\angle 2$, prove that $m\angle 3 = m\angle 4$.



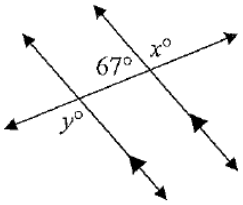

| Statements | Reasons |
|---|---|
| 1. $\overleftrightarrow{AB} \parallel \overleftrightarrow{DC}$, $m\angle 1 = m\angle 2$ | 1. |
| 2. $\angle 1 \cong \angle 3$ | 2. |
| 3. | 3. Transitive Prop. |
| 4. $\angle 2 \cong \angle 4$ | 4. |
| 5. | 5. Transitive Prop |
| 6. | 6. |

**Find the values of $x$ and $y$.**

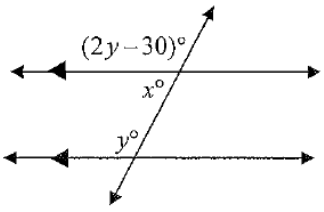
15.



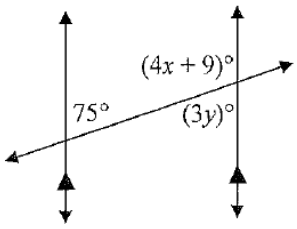

16.




17.

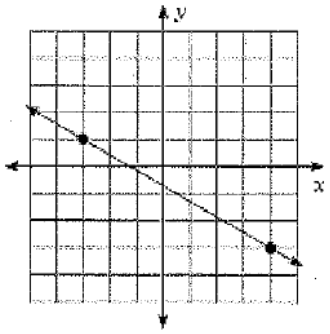



18.

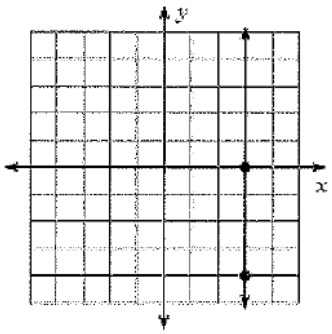


**Find the slope of each line.**

19)




20)




**Find the slope of the line through each pair of points.**

21) (–6, –4), (6, –18)

22) (–12, 14), (–9, 20)

23. Given the slope of each line, determine the slope of the line that is parallel and the slope of the line that is perpendicular to the given line.

a. Line *k* has a slope of -3. Parallel Line slope: _____ Perpendicular Line slope: _____

b. Line *m* has a slope of ½ . Parallel Line slope: _____ Perpendicular Line slope: _____

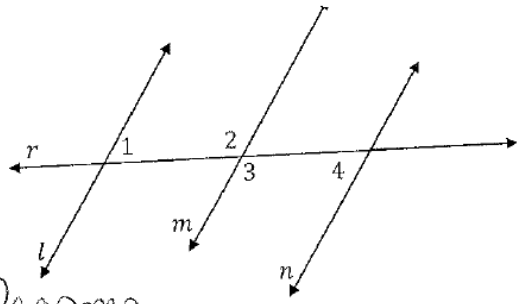
c. Line *t* has a slope of -4/5. Parallel Line slope: _____ Perpendicular Line slope: _____

d. Line *w* has a slope of 0. Parallel Line slope: _____ Perpendicular Line slope: _____

# Parallel Lines and Angles …. Set 2 (without Answers)

**24. Write a 2 column proof:**

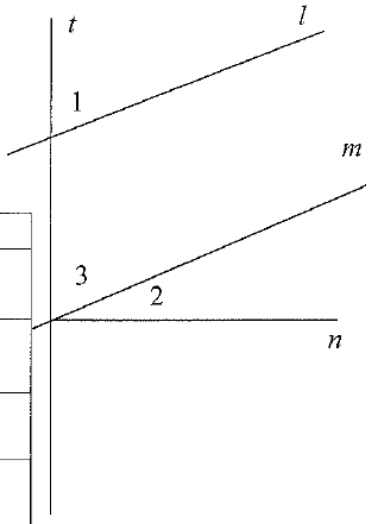
Given: $l \parallel m$, $m \parallel n$
Prove: $< 1$ is Supplementary to $< 3$.




| Statements | Reasons |
|---|---|
| 1. | 1. |
| 2. $\angle 1$ is Suppl. to $\angle 2$ | 2. |
| 3. $\angle 2 \cong \angle 3$ | 3. |
| 4. $\angle 1$ is Suppl. to $\angle 3$ | 4. |

**25. Complete the following proof:**

Given: $l \parallel m$ ; $\angle 3$ and $\angle 2$ are complementary.
Prove: $\angle 1$ and $\angle 2$ are complementary.




| Statement | Reason |
|---|---|
| 1. | 1. Given |
| 2. $m\angle 2 + m\angle 3 = 90^\circ$ | 2. |
| 3. $\angle 1 \cong \angle 3$ | 3. |
| 4. | 4. Definition of Congruent Angles |
| 5. $m\angle 2 + m\angle 1 = 90^\circ$ | 5. |
| 6. | 6. Definition of Complementary Angles |