

Name: Mrs. MacDonald

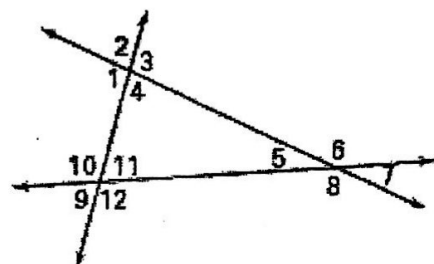
Name 2 angles the given angle has the given correspondence with.

1. Corresponding Angles: $\angle 2$ and $\angle 10$, $\angle 2$ and $\angle 6$

2. Alternate Interior Angles: $\angle 11$ and $\angle 1$, $\angle 11$ and $\angle 8$

3. Alternate Exterior Angles: $\angle 9$ and $\angle 3$, $\angle 9$ and $\angle 6$

4. ~~Same Side~~ ^{Consecutive} Interior Angles: $\angle 5$ and $\angle 11$, $\angle 4$ and $\angle 11$



What is the relationship between the given pairs of angles?

5. $\angle 1$ and $\angle 5$: Corresponding

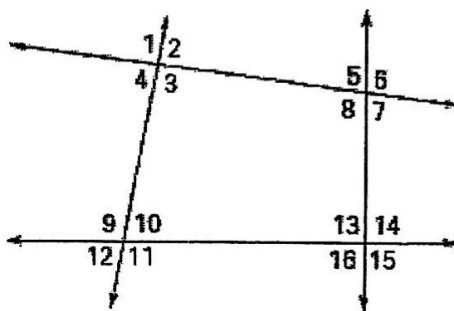
6. $\angle 4$ and $\angle 6$: Alternate Exterior

7. $\angle 13$ and $\angle 15$: Vertical angles

8. $\angle 10$ and $\angle 9$: Linear Pair

9. $\angle 14$ and $\angle 8$: Alternate Interior

10. $\angle 11$ and $\angle 16$: Consecutive Interior



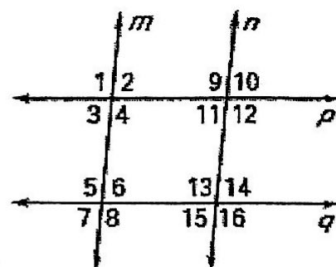
Use the diagram and the given congruence to determine if $m \parallel n$, $p \parallel q$, or neither. If 2 lines are parallel, write the reason.

11. $\angle 3 \cong \angle 10$: $m \parallel n$ alt. ext. angle converse

12. $\angle 4 \cong \angle 11$: neither

13. $\angle 12 \cong \angle 13$: $p \parallel q$ alt. int. angle converse

14. $\angle 7 \cong \angle 16$: neither

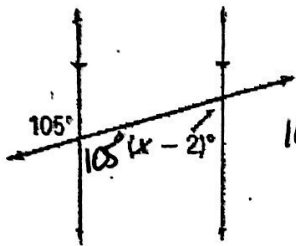


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Geo Unit 3 Review STATION 2

Find the values of x and y .

1.

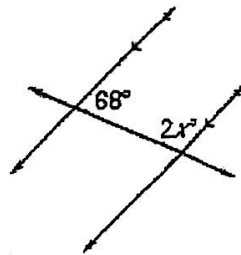


$$105 + x - 2 = 180$$

$$x + 103 = 180$$

$$\boxed{x = 77}$$

2.

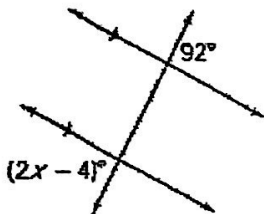


$$2x + 68 = 180$$

$$2x = 112$$

$$\boxed{x = 56}$$

3.

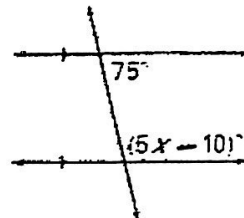


$$2x - 4 = 92$$

$$2x = 96$$

$$\boxed{x = 48}$$

4.



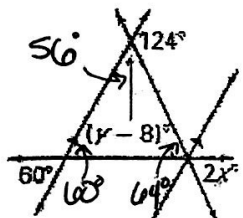
$$5x - 10 + 75 = 180$$

$$5x + 65 = 180$$

$$5x = 115$$

$$\boxed{x = 23}$$

5.



$$y - 8 + 124 = 180$$

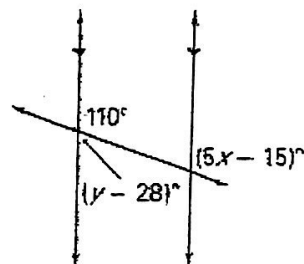
$$y + 116 = 180$$

$$\boxed{y = 64}$$

$$2x = 64$$

$$\boxed{x = 32}$$

6.



$$y - 28 + 110 = 180$$

$$y + 82 = 180$$

$$\boxed{y = 98}$$

$$5x - 15 = 110$$

$$5x = 125$$

$$\boxed{x = 25}$$

7. If $\angle A$ and $\angle B$ are complementary and $m\angle A = (4x^2 + 28)^\circ$ and $m\angle B = (68 - 10x)^\circ$, what are the measures of the angles?

$$4x^2 + 28 + 68 - 10x = 90$$

$$4x^2 - 10x + 96 = 90$$

$$4x^2 - 10x + 6 = 0$$

$$2(2x^2 - 5x + 3) = 0$$

$$2(2x - 3)(x - 1) = 0$$

8.

$$2x - 3 = 0$$

$$2x = 3$$

$$x = 1.5$$

$$\boxed{m\angle A = 37^\circ}$$

$$\boxed{m\angle B = 53^\circ}$$

$$x - 1 = 0$$

$$x = 1$$

$$\boxed{m\angle A = 32^\circ}$$

$$\boxed{m\angle B = 58^\circ}$$

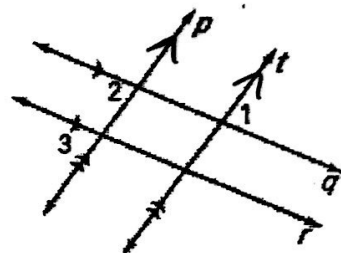
OR $\nearrow$

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Prove each of the following.

1. Given: $p \parallel t, q \parallel r$

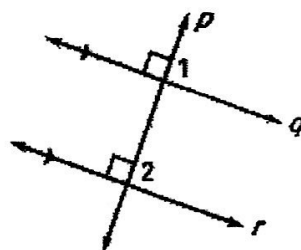
Prove: $\angle 1 \cong \angle 3$



Statements	Reasons
$p \parallel t$	Given
$q \parallel r$	Given
$\angle 1 \cong \angle 2$	Alt. Ext. Angles Theorem
$\angle 2 \cong \angle 3$	Corresponding Angles Postulate
$\angle 1 \cong \angle 3$	Transitive

2. Given: $q \parallel r$ and $p \perp q$

Prove: $p \perp r$



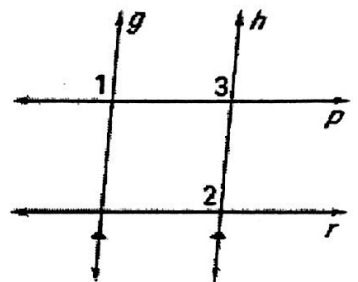
Statements	Reasons
$q \parallel r$	Given
$p \perp q$	Given
$\angle 1$ is a right angle	def. of $\perp$
$\angle 1 \cong \angle 2$	Corresponding Angles Postulate
$\angle 2$ is a right angle	Right Angles $\cong$ Theorem
$p \perp r$	def. of $\perp$

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Prove each of the following.

1. Given: $g \parallel h, \angle 1 \cong \angle 2$

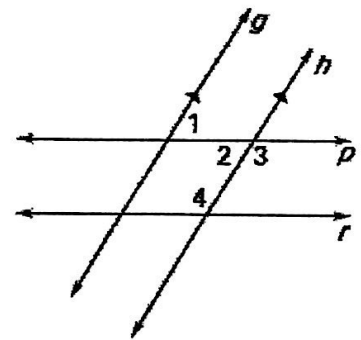
Prove: $p \parallel r$



Statements	Reasons
$g \parallel h$	Given
$\angle 1 \cong \angle 2$	Given
$\angle 1 \cong \angle 3$	Corresponding Angles Postulate
$\angle 2 \cong \angle 3$	Transitive
$p \parallel r$	Corresponding Angles Converse

2. Given: $g \parallel h, \angle 1$ and $\angle 4$ are supplementary

Prove: $p \parallel r$



Statements	Reasons
$g \parallel h$	Given
$\angle 1$ and $\angle 4$ are supp.	Given
$m\angle 1 + m\angle 4 = 180$	def. of supp.
$\angle 1 \cong \angle 2$	Alt. Int. Angles Theorem
$m\angle 1 = m\angle 2$	def. of $\cong$
$m\angle 2 + m\angle 4 = 180$	Substitution
$\angle 2$ and $\angle 4$ are supp.	def. of supp.
$p \parallel r$	Consecutive Int. Angles Converse