Geometry: Unit 2 Practice Test Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Use the picture to the left for questions 1-7.

 1. Name all four pairs of corresponding angles.

 2. Name both pairs of alternate exterior angles.

 3. Name both pairs of alternate interior angles.

 4. Name both pairs of consecutive interior angles.

5. Name all four pairs of vertical angles.

6. Solve for the value of x that would make the lines parallel if ∠2 = 3x-7 and ∠6 = 92°. What Theorem are we using to show the lines are parallel?

7. Solve for the value of x that would make the lines parallel if ∠4 = 5x-31 and ∠7 = 11x-85. What Theorem are we using to show the lines are parallel?

8. Explain why $\overbar{WX}≅\overbar{YX}$ in the diagram below. (State the Theorem)

W

41°

41°

Y

X

9. Find the length of $\overbar{WX}$ in the diagram above if WX = 8x-1 and XY = 7x+15.

10. Explain why $\overbar{AM}≅\overbar{HM}$ in the diagram below. (State the Theorem)

11. Solve for the length of TM if AM = 4x+10, MH = x+22, and AH = 18.

H

M

T

A

**12. *Given:* $\overbar{AD}∥\overbar{CB}, ∠1≅∠2$

 *Prove:* $∠1≅∠4$

|  |  |
| --- | --- |
| Statements | Reasons |
| 1. $\overbar{AD}∥\overbar{CB}, ∠1≅∠2$ | 1. Given |
| 2. $∠2 and ∠3$ are supplementary | 2.  |
| 3. $∠1 and ∠3$ are supplementary | 3. Transitive/Substitution  |
| 4. $∠4 and ∠3$ are supplementary | 4.  |
| 5. $∠1≅∠4$ | 5. |

13. Given**:** $∠1≅∠5$, $∠7≅∠14$

d

b

 Prove**:** $∠10≅∠3$

a

a

 1 2

 9 10

11

4

3

12

c

14

13

 5 6

16

15

 7 8

|  |  |
| --- | --- |
| Statements | Reasons |
| 1. $∠1≅∠5$, $∠7≅∠14$ | 1. Given |
| 2.  | 2. Corresponding Angles are Congruent |
| 3. line b is parallel to line d | 3.  |
| 4. $∠10≅∠3$ | 4.  |

Solve the following systems of equations.

14. $3x-5y=180$ 15. $6x+4y=74$

 $6x+5y=180$ $3x-6y=-27$