Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.6 Worksheet

**Find the value of *x* and** $m∠1$**.**

1. 2. 3.

**1**

**1**

**1**

4. 5. 6.

**1**

**1**

**1**

**Find** $m∠1$ **using the figure at the right and the given information.**

7. $m∠1=5x-9$, $m∠4=2x+90$

8. $m∠1=8x-12$, $m∠1=4x+16$

9. $m∠2=180-3x$, $m∠3=2x$

**Complete the proof by filling in the blanks.**

10. **Given:** $∠A≅∠BDA$

 **Prove:** *x* = 5

|  |  |
| --- | --- |
| **Statements** | **Reasons** |
| 1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 1) Given |
| 2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 2) Vertical Angles are ≅. |
| 3) ∠*A* ≅ ∠*CDE* | 3) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 4) Definition of Congruence |
| 5) 11*x* + 20 = 12*x* + 15 | 5) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 6) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 6) Subtraction Property of Equality |
| 7) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 7) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**Write a two column proof.**

11. **Given:** $∠5≅∠2$

 **Prove:** $∠8≅∠4$

12. **Given:** $∠1$ and $∠2$ are supplementary

 $∠3$ and $∠2$ are supplementary

 **Prove:** $∠1≅∠3$