Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Supplementary and Complementary Angles Homework**

**Name the figures described. Use the figure for 1-6.**

2

1

B

D

C

A

3

4

•

•

•

•

•

X

1. Two acute angles. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Two obtuse angles. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Two pairs of vertical angles. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Four pairs of adjacent angles. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Four pairs of supplementary angles. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Two supplements of ∠AXC. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Suppose ∠1 and ∠2 are known to be complementary. If m∠1 = 20, then m∠2 =\_\_\_\_.
7. Suppose ∠3 and ∠4 are known to be supplementary. If m∠3 = 40, then m∠4 = \_\_\_\_.

**For problems 9-12, if ∠1 and ∠2 are complementary angles, state the numerical value of x.**

|  |  |
| --- | --- |
| 9. m∠1 = 2x, m∠2 = 3x | 1. m∠1 = x, m∠2 = x + 20
 |
| 11. m∠1 = 2x , m∠2 = x | 1. m∠1 = 30 + x, m∠2 = 40 + x
 |

**For problems 13-16, if ∠3 and ∠4 are supplementary angles, state the numerical value of y.**

|  |  |
| --- | --- |
| 13. m∠3 = 2y, m∠4 = 3y – 15  | 1. m∠3 = y + 10, m∠4 = 3y – 10
 |
| 15. m∠3 = 5y , m∠4 = y | 1. m∠3 = 160 – y, m∠4 = 170 – y
 |

|  |  |
| --- | --- |
| 1. Two angles are supplementary. The measure of one is five times the measure of the other angle. Find each angle. \_\_\_\_\_\_\_\_\_\_\_
 | 1. Two angles are complementary. The measure of one is 4/5 the measure of the other. Find each angle. \_\_\_\_\_\_\_\_\_\_\_\_\_
 |

**Solve**.

\_\_\_\_\_ 19. The measure of an angle is 30 more than its complement. Find the measure

\_\_\_\_\_ of the angle and its complement.

\_\_\_\_\_ 20. The measure of an angle is the same as the measure of its complement.

 Find the measure of the angle.

\_\_\_\_\_ 21. The measure of an angle is 20 less than the measure of its supplement.

\_\_\_\_\_ Find the measure of the angle, the measure of its supplement, and the

 measure of its complement.

\_\_\_\_\_ 22. The measure of an angle is twice that of its supplement. Find the measure of

\_\_\_\_\_ the angle and its supplement.

\_\_\_\_\_ 23. ∠D and ∠E form a linear pair and m∠E = 3x m∠D = x. Find the measure of

\_\_\_\_\_ each angle and the measure of the complement of ∠D.

24. Find all the missing angles given m∠1 = 90, m∠2 = 34, and m∠6 = 137.



m∠3 = \_\_\_\_\_\_\_

m∠4 = \_\_\_\_\_\_\_

m∠5 = \_\_\_\_\_\_\_

m∠7 = \_\_\_\_\_\_\_

m∠8 = \_\_\_\_\_\_\_