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 .

|  |  |
| --- | --- |
| 9. $m <1=2x, m <2=3x$ | 1. $m<1=x, m<2=x+20$
 |
| 11. $m<1=2m<2, m<2=x$ | 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 .

|  |  |
| --- | --- |
| 13. m < 3 = 2y, m < 4 = 3y - 15 | 1. m < 3 = y + 10, m < 4 = 3y - 10
 |
| 15. m < 3 = 5m< 4, 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 = 3m < D. Find the measure of

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

24. Find all the missing angles.

