Geometry Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.5 Worksheet Date: \_\_\_\_\_\_\_\_\_\_\_\_\_ Hour: \_\_\_\_\_\_\_

Directions: Use the figure at the right to answer the following.

1

2

3

4

5

1. Are ∠1 and ∠2 a linear pair? \_\_\_\_\_

2. Are ∠4 and ∠5 a linear pair? \_\_\_\_\_

3. Are ∠3 and ∠1 vertical angles? \_\_\_\_\_

4. Are ∠2 and ∠5 vertical angles? \_\_\_\_\_

Directions: Use the figure at the right to find the indicated angle.

5. If m∠6 = 51°, then m∠7 = \_\_\_\_\_\_\_\_.

6

6. If m∠8 = 103°, then m∠6 = \_\_\_\_\_\_\_\_.

9

8

7

7. If m∠9 = 136°, then m∠8 = \_\_\_\_\_\_\_\_.

8. If m∠7 = 53°, then m∠9 = \_\_\_\_\_\_\_\_.

Directions: In exercises 9 – 12, assume ∠A and ∠B are complementary and ∠B and ∠C are supplementary.

9. If m∠A = 48°, then m∠B = \_\_\_\_\_\_\_\_\_ and m∠C = \_\_\_\_\_\_\_\_\_\_.

10. If m∠B= 83°, then m∠A = \_\_\_\_\_\_\_\_\_ and m∠C = \_\_\_\_\_\_\_\_\_\_.

11. If m∠C = 127°, then m∠A = \_\_\_\_\_\_\_\_\_ and m∠B= \_\_\_\_\_\_\_\_\_\_.

12. If m∠A = 45°, then m∠B = \_\_\_\_\_\_\_\_\_ and m∠C = \_\_\_\_\_\_\_\_\_\_.

Directions: Find the value of the variables.

13. 14. 15.

(8y – 36)°

(48 + x)°

(14y – 24)°

64°

168°

(5x - 48)°

y°

x°

110°

70°

(2x + 40)°

(y + 20)°

x = \_\_\_\_, y = \_\_\_\_ x = \_\_\_\_, y = \_\_\_\_ x = \_\_\_\_, y = \_\_\_\_

(2x + 8)°

(3x + 8)°

x°

(2y + 17)°

75°

(2x – 5)°

y°

17. 18. 19.

(3x + 17)°

(5y + 15)°

x = \_\_\_\_, y = \_\_\_\_ x = \_\_\_\_, y = \_\_\_\_ x = \_\_\_\_, y = \_\_\_\_

Directions: Use the figure at the right to determine whether the statement is True (T) or False (F).

19. ∠2 and ∠5 are vertical angles.

20. ∠1 and ∠5 are supplementary.

3

2

1

21. ∠1 and ∠4 are vertical angles.

5

4

22. ∠4 + ∠5 = 180°.

23. ∠3 and ∠2 = 90°.

24. and are vertical angles.

1

3

4

2

25. and are supplementary angles.

26. 

27. 

28. 

29. and are adjacent angles.

Directions: Find the values of the variables.

(6y – 10)°

(6y + 10)°

30. 31.

(3x - 40)°

(2x - 10)°

32. 33.

32°

(9x + 4)˚

(4z –10)°

34. 35.

(7x + 3) ˚

65˚

(4x + 1) ˚

(4y)˚

(6y)˚

Directions: Use the diagram to the right to answer the following questions.

O

H

R

E

M

3

36. Which angle is supplementary to ?

37. Which angle is supplementary to ?

38. If and , find .

39. If , and are supplementary, and  are complementary, and and are complementary, find m, m, and m.

40. and are supplementary, m = 6x + 10 and m = 15x + 23.

Find x, mand m

Directions: For #41 – 43, use the diagrams to answer each set of questions.

41. Use the figure at the right to find the values

of x, y, and z.

51˚

z˚

y˚

x˚

x = \_\_\_\_\_

y = \_\_\_\_\_

z = \_\_\_\_\_

42. Use the figure at the right to complete the following:

(5x – 15)˚

(20x – 5)˚

(3x + 1)˚

P

L

A

T

O

1. Find x \_\_\_\_\_
2. Find m \_\_\_\_\_\_
3. Find m \_\_\_\_\_\_
4. Find m \_\_\_\_\_\_

43. In the figure, and intersect at B, , and m

A

B

C

D

E

F

1. Find m\_\_\_\_\_\_
2. Find m \_\_\_\_\_\_
3. Find m \_\_\_\_\_\_