# Parallelograms Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Worksheet

For #1-7, refer to the diagram at the right. ABCD is a parallelogram. Find the indicated lengths, angle measures, or value of x.

A B

D C

1

2

E

3

4

1. If m∠ADC = 83°, then m∠DAB = \_\_\_\_\_\_\_\_\_\_

2. If AD = 23, then CB = \_\_\_\_\_\_\_\_\_\_

3. If m∠3 = 65° and m∠4 = 48°, then m∠2 = \_\_\_\_\_\_\_\_\_\_

4. If AE = 8x + 7 and CE = 11x – 8, then x = \_\_\_\_\_\_\_\_\_\_

5. If DC = 17 – 4x and AB = 3x – 11, then x = \_\_\_\_\_\_\_\_\_\_

6. If ED = 3x + 6 and DB = 48, then x = \_\_\_\_\_\_\_\_\_\_

7. If m∠DAB + m∠BCD = 214° and m∠ABC = x, then x = \_\_\_\_\_\_\_\_\_\_

For #8-13, quadrilateral RSTW is a parallelogram. Complete each statement.

S T

8. RW || \_\_\_\_\_\_\_

Z

R W

5

6

7

8

4

3

1

2

9. ∠RST ≅ ∠\_\_\_\_\_\_\_

10. SZ ≅ \_\_\_\_\_\_\_

11. ∠6 ≅ ∠ \_\_\_\_\_

12. ∠STW is supplementary to ∠\_\_\_\_\_\_

13. ∠RWS ≅ ∠ \_\_\_\_\_\_\_

For # 14-25, find values of the variables in each parallelogram. Show all work.

14. 15.

y°

75°

x°

50°

z°

y°

64°

x°

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

Y = \_\_\_\_\_\_ Y = \_\_\_\_\_\_

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

7y

28

5x + 14

39

16. 17.

y°

32°

x°

47°

81°

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

Y = \_\_\_\_\_\_ Y = \_\_\_\_\_\_

(2x)°

(3x)°

y°

18. 19.

(5x)°

(3y)°

y°

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

Y = \_\_\_\_\_\_ Y = \_\_\_\_\_\_

20. 21.

3x − 1

17

31

4y + 7

x + y

8x

5y

13x - 60

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

Y = \_\_\_\_\_\_ Y = \_\_\_\_\_\_

(4y + 2)°

31°

(6x + 3)°

52°

98°

22. 23.

62°

(9y + 1)°

(8x − 10)°

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

Y = \_\_\_\_\_\_ Y = \_\_\_\_\_\_

y2

x2

-20 + 9y

2x + 15

2x + 5y

30

2x + 2y

18

20

24. 25.

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

Y = \_\_\_\_\_\_ Y = \_\_\_\_\_\_

