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

Worksheet 6.2 Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per: \_\_\_\_\_\_\_\_\_\_

Directions: Decide whether the figure is a parallelogram. If it is not, explain why not.

1) 2) 3)

Directions: Use the diagram of parallelogram *MNOP* at the right. Complete the statement, and give a reason for your answer.

M

N

O

Q

P

4)  5) 

6)  7) ∠MPO ≅ \_\_\_\_\_

8)  9) 

10) ∠MQN ≅ \_\_\_\_\_ 11) ∠NPO ≅ \_\_\_\_\_

Directions: Find the measure in the parallelogram *HIJK*. Explain your reasoning.

12) HI \_\_\_\_\_ 13) KH \_\_\_\_\_

I

J

K

G

7

8

28°

84°

16

10

H

14) GH \_\_\_\_\_ 15) HJ \_\_\_\_\_

16) m∠KIH \_\_\_\_\_ 17) m∠JIH \_\_\_\_\_

18) m∠KJI \_\_\_\_\_ 19) m∠HKI \_\_\_\_\_

Directions: Find the value of each variable in the parallelogram.

20) 21)

3x - 7

2y + 18

2x + 9

5y

12

27

3x + 6

2y + 9

2y + 21

4y + 5

(3x – 9)°

(2x + 31)°

2y + 3

4x°

2x°

y + 9

22) 23)

24) 25)

2x + 1

y + 3

4y

4x – 5

6y + 10

7y + 1

2x + 10

3x

26) Given parallelogram ABCD,  and are diagonals. DB = 44. Find x.

3x + 4

A

B

C

D

E

27) Find the value of each variable in the given parallelogram.

(4x)°

(3z)°

(3y - 15)°

(2y + 10)°