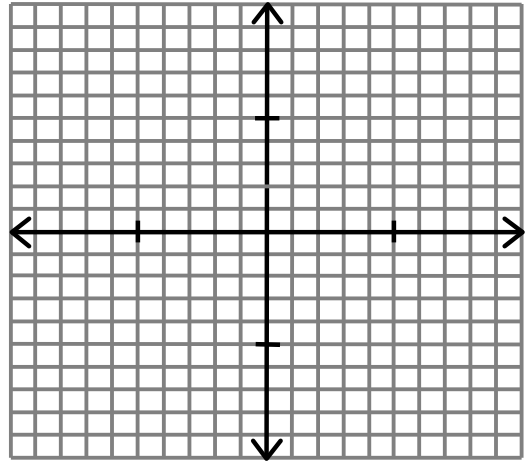The coordinates of three vertices of parallelogram ABCD are given. Find the coordinates of D so that the given the type of figure is formed.

1. A(4, -2), B(-5,-2), C(4,4); rectangle
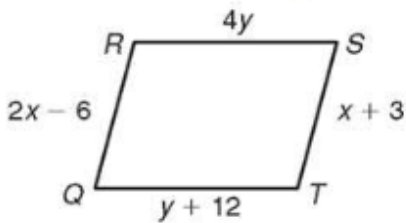
2. A(-5,5), B(0,0), C(7,1); rhombus

3. A(0,2), B(4, -2), C(0,-6); square
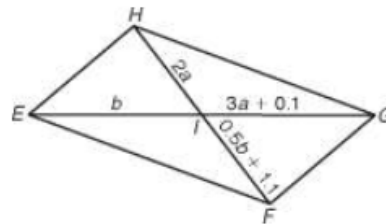
4. A(2,1), B(-1,5), C(-5,2); square

Determine whether the figure is a parallelogram for the given values of the variables. **EXPLAIN** your answers.
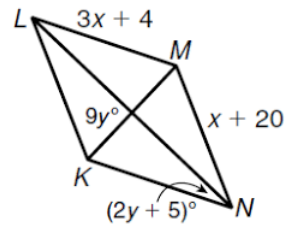
5. x = 9 and y = 4   6. a = 4.3 and b = 13
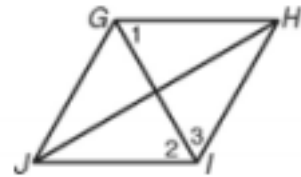
7. KLMN is a rhombus. Find each measure.

KL = _____

m<MNK = _____

$3x + 4$

L

M

$9y°$

$x + 20$

K

$(2y + 5)°$ N

8. **Given:** GHIJ is a rhombus

Prove: <1 ≡ <3

Statements	Reasons

G H

1

2 3

J I
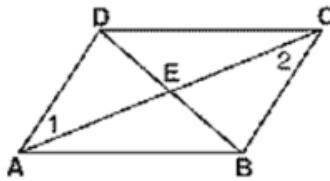
9.

Given: $\overline{DB}$ bisects $\overline{AC}$

$\angle 1 \cong \angle 2$

Prove: ABCD is a parallelogram

Statements	Reasons

D C

E

2

1

A B