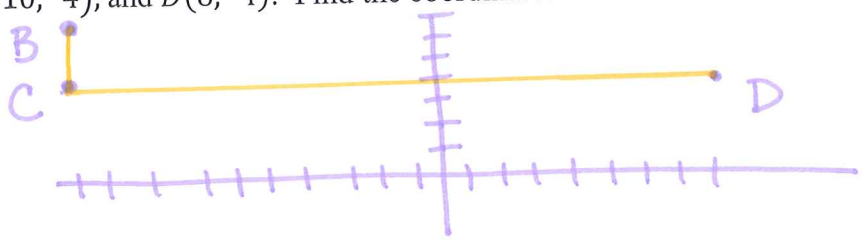
Name: Key Date: _____ Hour: _____

Finding a Missing Coordinate without a Picture

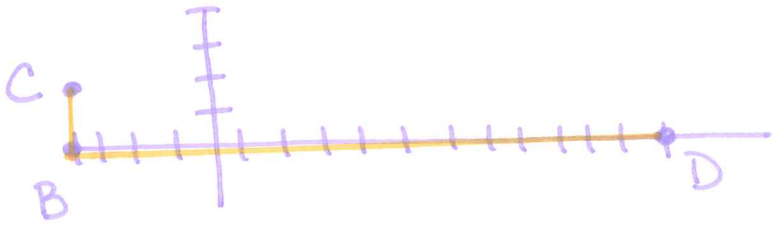
Find the missing coordinate in the quadrilateral.

1. $ABCD$ is a rectangle with $B(-10,\ 7), C(-10,\ 4)$, and $D(8,\ 4)$. Find the coordinates of A.



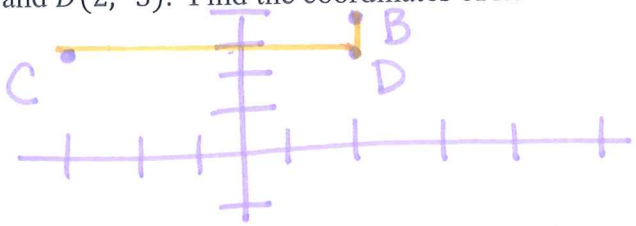
A. $A(7,\ 10)$
B. $A(8,\ 10)$
C. $A(4,\ 7)$
D. $A(8,\ 7)$
E. $A(-10,\ 4)$

2. $ABCD$ is a rectangle with $B(-4,\ 0), C(-4,\ 2)$, and $D(12,\ 0)$. Find the coordinates of A.



A. $A(0,\ -4)$
B. $A(0,\ 4)$
C. $A(12, 2)$
D. $A(2, 12)$
E. $A(-2,\ 4)$

3. $ABCD$ is a rectangle with $B(2,\ 4), C(-3,\ 3)$, and $D(2,\ 3)$. Find the coordinates of A.



A. $A(3,\ 4)$
B. $A(-3,\ 4)$
C. $A(3,\ -3)$
D. $A(2,\ 2)$
E. $A(4,\ 3)$

4. Given the set of vertices for $ABCD$: $A(-1,-5), B(-3,\ 0), C(2,\ 2), D(4,\ -3)$. $\overline{AB}$ and $\overline{CD}$ each have a slope of $-\frac{5}{2}$ and segments $\overline{BC}$ and $\overline{AD}$ each have a slope of $\frac{2}{5}$. All sides have a length of $\sqrt{29}$. Classify $ABCD$ with **all** that apply.

I. Quadrilateral ✓
II. Parallelogram ✓
III. Rectangle ✓
IV. Rhombus ✓
V. Square ✓

⊥ slopes and all ≅ sides

A. I and II only
B. I, II, and III only
C. I, II, and IV only
D. I, II, III, IV, and V

5. a) What is the perimeter of $ABCD$ from #4?

$\sqrt{29} + \sqrt{29} + \sqrt{29} + \sqrt{29}$

$4\sqrt{29}$ units

b) What is the area of $ABCD$?

$(\sqrt{29})(\sqrt{29}) = 29 \text{ units}^2$

6. Given the set of vertices for $BEFG$: $B(-9,1), E(2,\ 3), F(12,-2), G(1,\ -4)$. $\overline{EF}$ and $\overline{BG}$ each have a slope of $-\frac{1}{2}$ and segments $\overline{FG}$ and $\overline{BE}$ each have a slope of $\frac{2}{11}$. All sides have a length of $5\sqrt{5}$. Classify $ABCD$ with **all** that apply.

I. Quadrilateral ✓
II. Parallelogram ✓
III. Rectangle
IV. Rhombus ✓
V. Square

≅ sides only

A. I and II only
B. I, II, and III only
C. I, II, and IV only
D. I, II, III, IV, and V

7. Given the set of vertices for $BEFG$: $B(1,3), E(7,-3), F(1,-9), G(-5,\ -3)$. $\overline{BE}$ and $\overline{GF}$ each have a slope of -1 and segments $\overline{EF}$ and $\overline{BG}$ each have a slope of 1. All sides have a length of $6\sqrt{2}$. Classify $ABCD$ with **all** that apply.

I. Quadrilateral ✓
II. Parallelogram ✓
III. Rectangle ✓
IV. Rhombus ✓
V. Square ✓

⊥ sides and ≅ sides

A. I and II only
B. I, II, and III only
C. I, II, III and IV only
D. I, II, III, IV, and V

8. a) What is the perimeter of $ABCD$ from #7?

$6\sqrt{2} + 6\sqrt{2} + 6\sqrt{2} + 6\sqrt{2}$

$24\sqrt{2}$ units

b) What is the area of $ABCD$?

$(6\sqrt{2})(6\sqrt{2}) = 36 \cdot 2$

$= 72 \text{ units}^2$