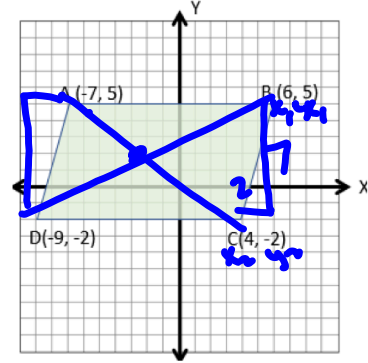No Bell Ringer

Pick up 7C Review

Review for Std. 7C

1. Show that quadrilateral ABCD is a parallelogram by doing the following steps:

   a. Circle which property or theorem you will be using to prove quadrilateral ABCD is a parallelogram.
      - *Definition of a parallelogram
      - *Converse of Diagonals bisect each other
      - *Converse of one pair of opposite sides both parallel and congruent
      - *Converse of both pairs of opposite sides congruent

   b. Do **only** the parts below that you need to prove that quadrilateral ABCD is a parallelogram by the method that you circled in part a.

Length of $\overline{AB}$= __13__

Length of $\overline{BC}$= __7.28__

Length of $\overline{CD}$= __13__

Length of $\overline{DA}$= __7.28__

Slope $\overline{AB}$= __0__

Slope $\overline{BC}$= __7/2__

Slope $\overline{CD}$= __0__

Slope $\overline{DA}$= __7/2__

Midpoint of $\overline{AC}$= $\left(-\frac{3}{2}, \frac{3}{2}\right)$

Midpoint of $\overline{BD}$= $\left(-\frac{3}{2}, \frac{3}{2}\right)$

$$\sqrt{(6+7)^2 + (5-5)^2} = \sqrt{13^2 + 0^2} = 13$$

$$\sqrt{(4-4)^2 + (-2-5)^2} \quad \sqrt{(-2)^2 + (-7)^2} = \sqrt{53}$$

$$\sqrt{(4+9)^2 + (-2+2)^2} = \sqrt{13^2} = 13$$

$$\sqrt{(-9+7)^2 + (2-5)^2} = \sqrt{(-2)^2 + (-7)^2} = \sqrt{53}$$

$$\left(\frac{-7+4}{2}, \frac{5-2}{2}\right) = \left(-\frac{3}{2}, \frac{3}{2}\right)$$

$$\left(\frac{6-9}{2}, \frac{5-2}{2}\right) = \left(-\frac{3}{2}, \frac{3}{2}\right)$$

A (-7, 5) B (6, 5)
D(-9, -2) C(4, -2)

Definition of a Parallelogram: The **opposite sides** of parallelogram are **parallel and congruent**. Opposite angles are also congruent.
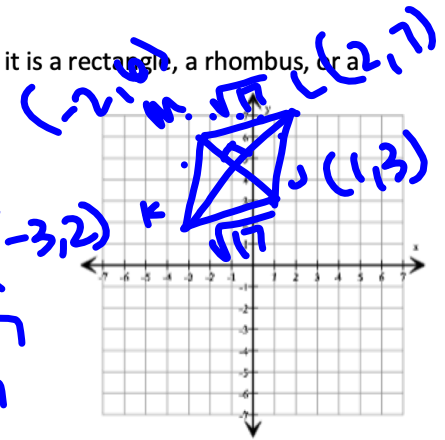
Converse of Diagonals Bisect Each other: If **the diagonals** of a quadrilateral **bisect each other**, then the quadrilateral is a parallelogram

Converse of One Pair of Opposite Sides both Parallel and Congruent: If **one pair of opposite sides** are proven to be **both parallel** to one another **and congruent**, then the quadrilateral is a parallelogram

Converse of both Pairs Opposite Sides Congruent: If **both pairs** of **opposite sides** of a quadrilateral are **congruent**, then the figure is a parallelogram.

2. Graph the quadrilateral with the given vertices and decide whether it is a rectangle, a rhombus, or a square.   J(1, 3), K(-3, 2), L(2, 7), M(-2, 6)

a. Circle which types of a parallelogram that apply to ▢JKLM

   ⟨Rectangle⟩   ⟨Square⟩   ⟨Rhombus⟩

b. Do **only** the parts below that you need to justify your answer in part a.

(-2,6) M $\sqrt{17}$ L (2,7)

(-3,2) K   J (1,3)

Length of $\overline{JK}$= $\sqrt{17}$ $\sqrt{(-3-1)^2+(2-3)^2}$

Length of $\overline{KL}$= $\sqrt{50}$ $\sqrt{(2+3)^2+(7-2)^2}$
                                                    $5 \qquad 5$

Length of $\overline{LM}$= $\sqrt{17}$ $\sqrt{(-2-2)^2+(6-7)^2}$

Length of $\overline{MJ}$= $\sqrt{18}$ $\sqrt{(1+2)^2+(3-6)^2} = \sqrt{18}$

Length of $\overline{JL}$ = $\sqrt{17}$ $\sqrt{(1-2)^2+(3-7)^2} = \sqrt{17}$
                                                    $-1 \qquad\qquad -4$

Length of $\overline{KM}$ = $\sqrt{17}$ $\sqrt{(-3+2)^2+(2-6)^2} = \sqrt{17}$
                                                    $-1 \qquad\qquad -4$

Slope of $\overline{LM}$= $\frac{1}{4}$

Slope of $\overline{MJ}$= $-\frac{3}{3} = -1$

Slope of $\overline{JK}$= $\frac{1}{4}$

Slope of $\overline{JL}$= $\frac{4}{ }$

Slope of $\overline{KM}$= $\frac{4}{1} = 4$

Slope of $\overline{KL}$= $\frac{5}{5} = 1$

4

Standards 7C Opportunity 1

Carefully follow instructions and double check answers!

When finished:

Staple and hand in the basket
Finish missing hw
Read

No Phones