

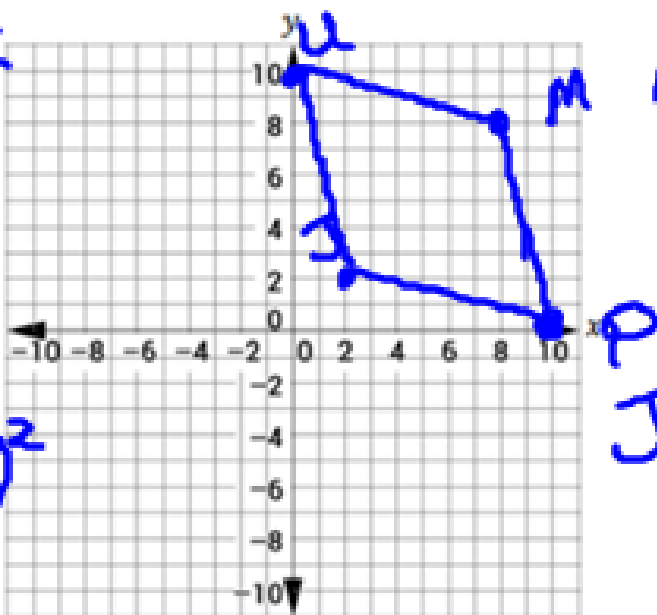
Consider the information below.

Given: $J(2, 2), U(0, 10), M(8, 8), P(10, 0)$.

Prove: $JUMP$ is a rhombus

$$\begin{aligned}JU &= \sqrt{(2-0)^2 + (2-10)^2} \\ &= \sqrt{2^2 + (-8)^2} \\ &= \sqrt{4 + 64} = \sqrt{68}\end{aligned}$$

$$\begin{aligned}UM &= \sqrt{(0-8)^2 + (10-8)^2} \\ &= \sqrt{(-8)^2 + (2)^2} \\ &= \sqrt{64 + 4} = \sqrt{68}\end{aligned}$$



$$\begin{aligned}MP &= \sqrt{(8-10)^2 + (8-0)^2} \\ &= \sqrt{(-2)^2 + 8^2} \\ &= \sqrt{4 + 64} = \sqrt{68}\end{aligned}$$

$$\begin{aligned}JP &= \sqrt{(2-10)^2 + (2-0)^2} \\ &= \sqrt{(-8)^2 + 2^2} \\ &= \sqrt{64 + 4} = \sqrt{68}\end{aligned}$$

$\overline{JU} \cong \overline{UM} \cong \overline{MP} \cong \overline{JP}$ so $JUMP$ is a rhombus

Quadrilateral *GRIT* has coordinates $G(10, 8)$, $R(10, 20)$, $I(18, 20)$, and $T(18, 8)$.

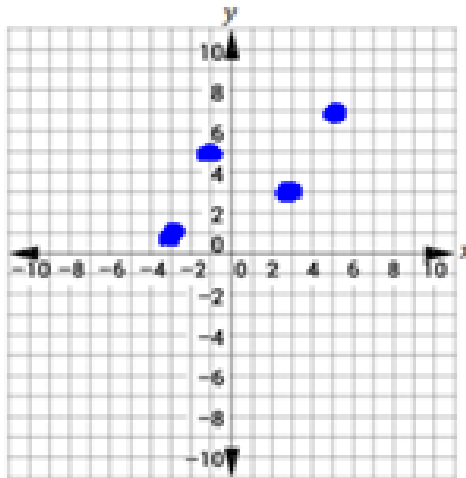
Part A: Circle the correct answer that completes the statement below.

GRIT is a rectangle | rhombus | isosceles trapezoid.

Part B: Which of the following statements is enough to justify your answer?

- GRIT* has four right angles and two pairs of congruent sides.
- GRIT* has opposite angles that are congruent but not right angles.
- GRIT* has diagonals that intersect at 90° .
- GRIT* has one pair of parallel opposite sides and one pair of non-parallel but congruent sides.

2. Prove that quadrilateral $LEAP$ with vertices $L(-3,1)$, $E(3,3)$, $A(5,7)$, and $P(-1,5)$ is a parallelogram.



Which of the following statements help to prove that $LEAP$ is a parallelogram? Select all that apply.

- $LE = 2\sqrt{10}$, $EA = 2\sqrt{5}$, $AP = 2\sqrt{10}$, $LP = 2\sqrt{5}$, so $\overline{LE} \cong \overline{AP}$ and $\overline{EA} \cong \overline{LP}$. Opposite sides of a parallelogram are congruent.
- $LE = EA = AP = LP = 2\sqrt{10}$, so $\overline{LE} \cong \overline{EA} \cong \overline{AP} \cong \overline{LP}$. All sides are congruent, depicting a square, which is a type of parallelogram.
- The slope of \overline{LE} and \overline{AP} is $\frac{1}{3}$. The slope of \overline{EA} and \overline{LP} is 2. Since $\overline{LE} \parallel \overline{AP}$ and $\overline{EA} \parallel \overline{LP}$, opposite sides of a parallelogram are parallel.
- The slope of \overline{LE} and \overline{AP} is $\frac{1}{3}$. Since $\overline{LE} \parallel \overline{AP}$, parallelograms have one pair of parallel sides.
- The slope of \overline{LE} and \overline{AP} is $\frac{1}{3}$, while the slope of \overline{EA} and \overline{LP} is -3 . These slopes are opposite reciprocals of each other, so $LEAP$ is a rectangle, which is a type of parallelogram.