

Mar 31-1:39 PM

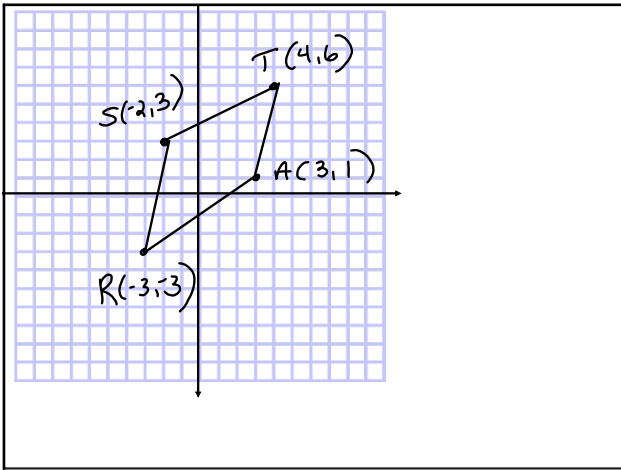
$AB = \sqrt{17} \quad \therefore \cong$   
 $DC = \sqrt{17} \quad \therefore \cong$   
 $AD = \sqrt{90} \quad \therefore \cong$   
 $BC = \sqrt{90} \quad \therefore \cong$

$m_{AD} = \frac{-9}{3} = -3 \quad \therefore \parallel$   
 $m_{BC} = \frac{-9}{3} = -3 \quad \therefore \parallel$   
 $m_{AB} = \frac{-6}{9} = -\frac{2}{3} \quad \therefore \parallel$   
 $m_{CD} = \frac{-6}{9} = -\frac{2}{3} \quad \therefore \parallel$

Quad ABCD is a  $\square$   
 since both pair of opposite sides are  $\cong$

Quad ABCD is a  $\square$   
 since both pair of opposite sides are  $\parallel$ .

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$ST = \sqrt{45} \quad \text{not } \cong$   
 $RA = \sqrt{52} \quad \text{not } \cong$   
 $SR = \sqrt{37} \quad \text{not } \cong$   
 $TA = \sqrt{26} \quad \text{not } \cong$

$m_{ST} = \frac{1}{2} \quad \text{not } \parallel$   
 $m_{RA} = \frac{4}{6} = \frac{2}{3} \quad \text{not } \parallel$   
 $m_{SR} = \frac{6}{6} = 1 \quad \text{not } \parallel$   
 $m_{TA} = \frac{4}{4} = 1 \quad \text{not } \parallel$

Quad STAR is not a  $\square$  since opposite sides are not  $\cong$ .

Quad STAR is not a  $\square$  since opposite sides are not  $\parallel$ .

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Rhombus

- All properties of a  $\square$
- All sides  $\cong$

To prove a rhombus:

- Distance on all 4 sides

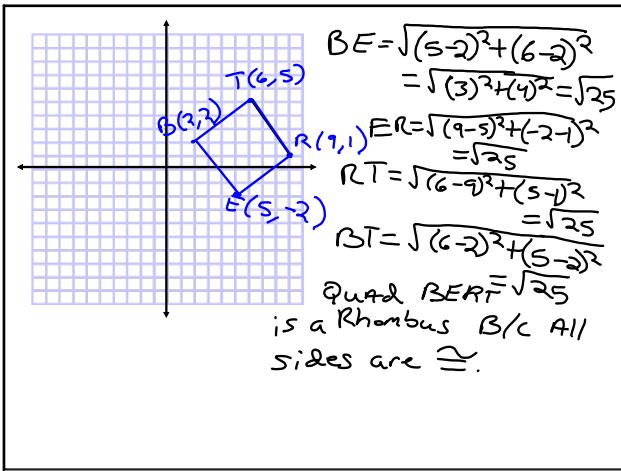
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$PQ = \sqrt{(4-0)^2 + (3-0)^2} = \sqrt{16+9} = \sqrt{25}$   
 $QR = \sqrt{(7-4)^2 + (1-3)^2} = \sqrt{9+4} = \sqrt{13}$   
 $RS = \sqrt{(7-3)^2 + (-1-3)^2} = \sqrt{16+16} = \sqrt{32}$   
 $SP = \sqrt{(3-0)^2 + (-4-0)^2} = \sqrt{9+16} = \sqrt{25}$

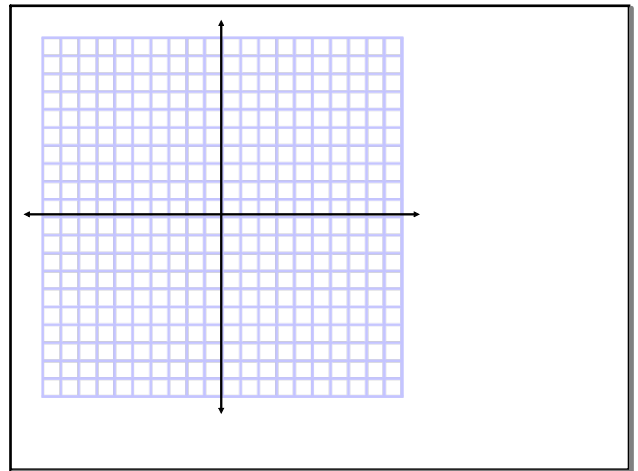
$\therefore \cong$

Quad PQRS is a rhombus because all 4 sides are congruent.

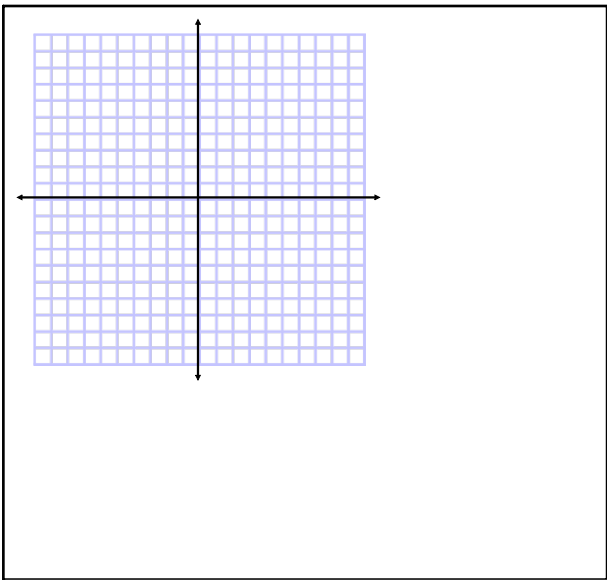
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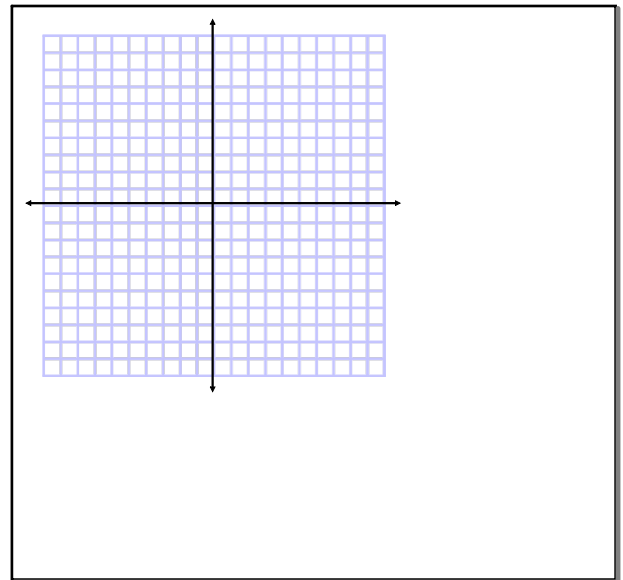
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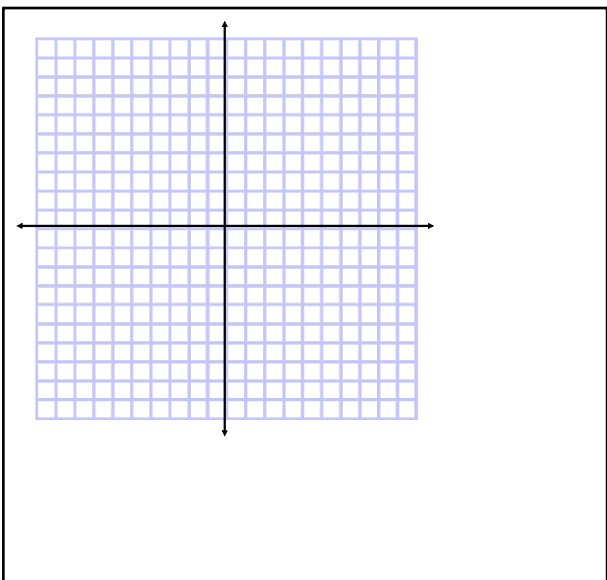
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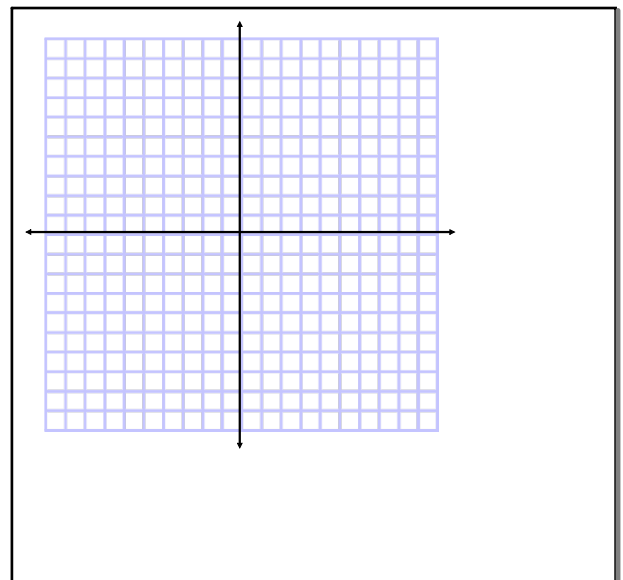
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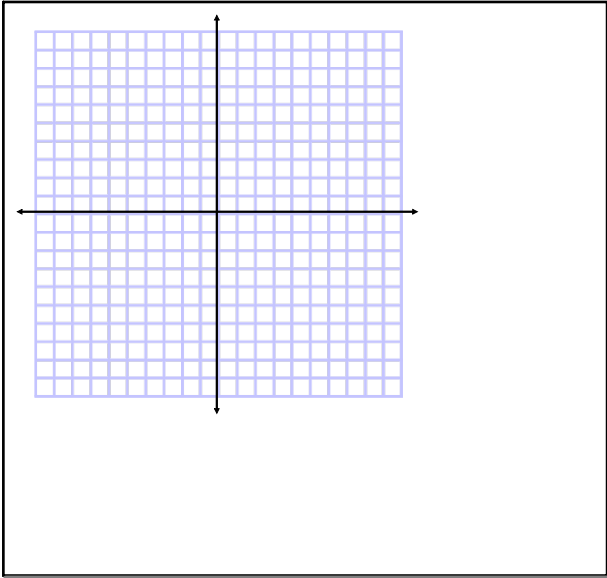
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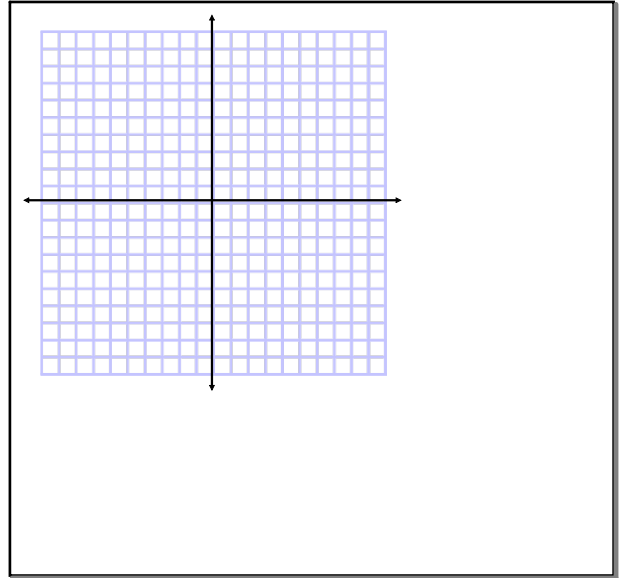
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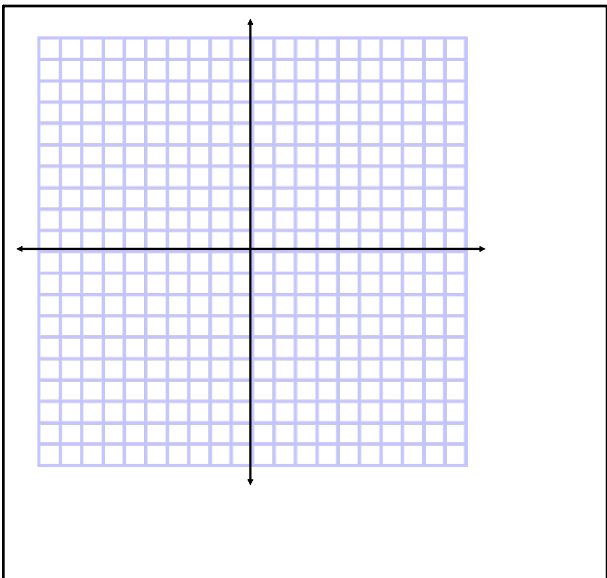
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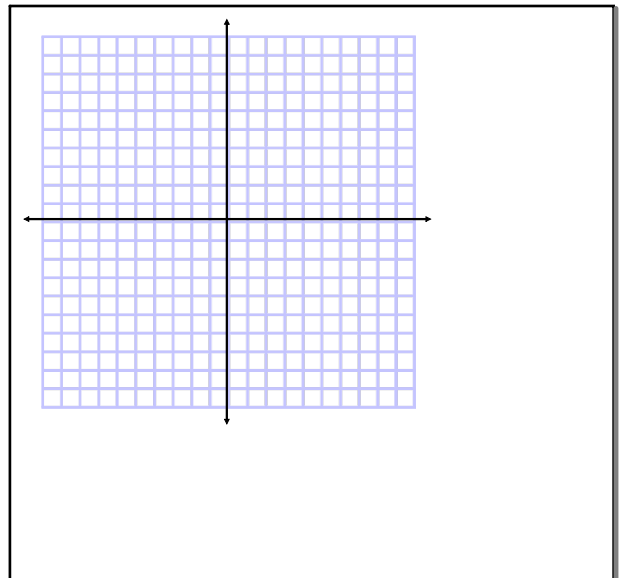
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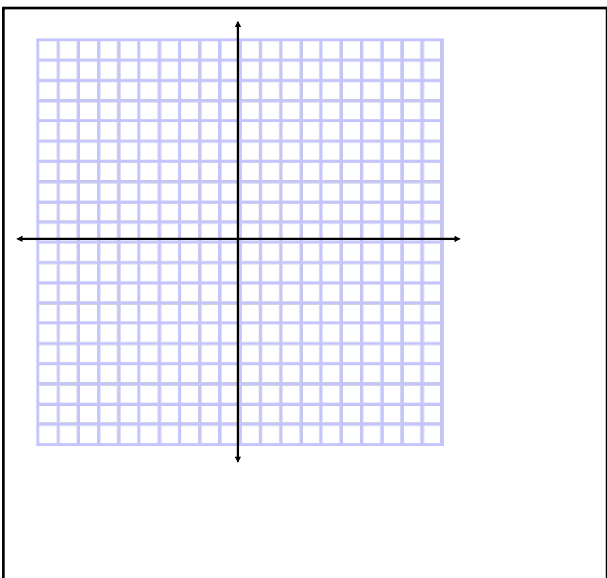
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