

Name: _____

Date: _____

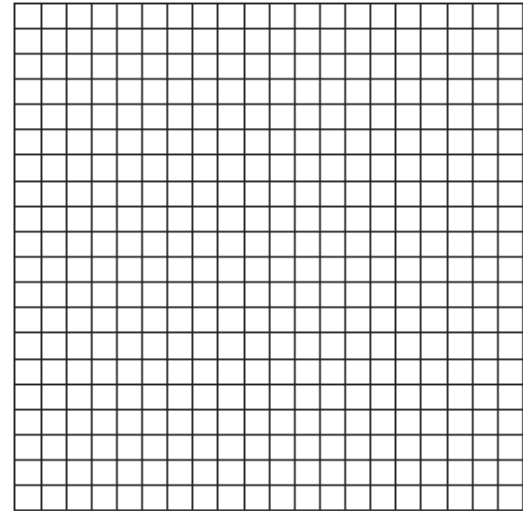
UNIT 7

LESSON 11

AIM: HOW DO PROVE TRAPEZOIDS AND ISOSCELES TRAPEZOIDS USING COORDINATE GEOMETRY?

Do Now: A quadrilateral has vertices with coordinates $(-3, 1)$, $(0, 3)$, $(5, 2)$, and $(-1, -2)$. Which type of quadrilateral is this?

- 1) rhombus
- 2) rectangle
- 3) square
- 4) trapezoid

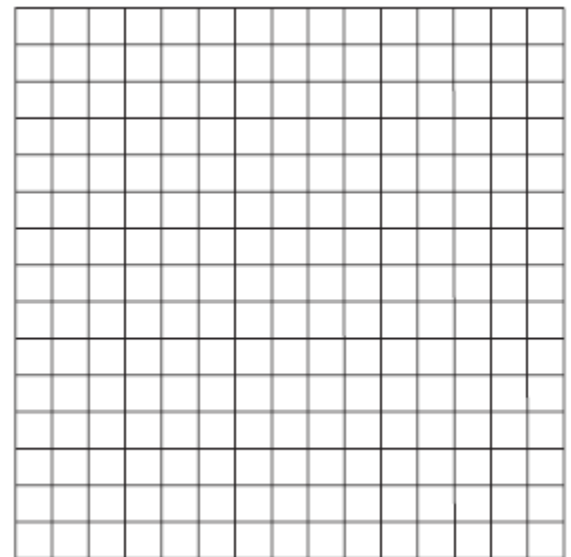


NOTES:

- Trapezoids have one pair of opposite sides _____
- To prove a quadrilateral is a trapezoid, we use the _____ formula _____ times to show one pair of opposite sides are _____.
- In an isosceles trapezoid, the non-parallel sides are _____.
- To prove a quadrilateral is an isosceles triangle, we use the _____ formula _____ times to show one pair of opposite sides are _____ then the _____ formula _____ times to show the non-parallel sides are _____.

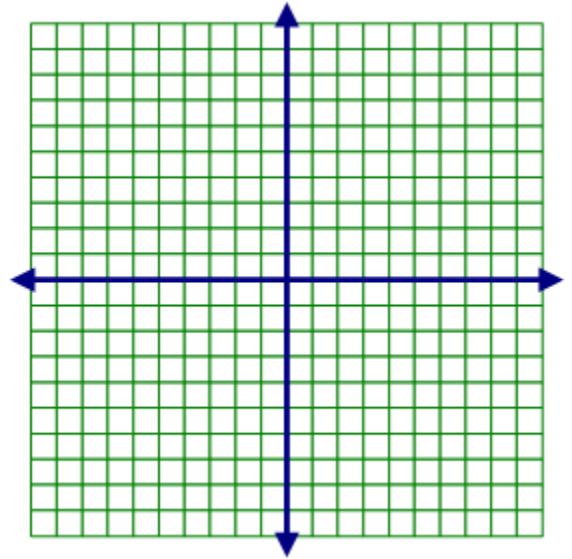
1) Given: $A(1, 6)$, $B(7, 9)$, $C(13, 6)$, and $D(3, 1)$

Prove: $ABCD$ is a trapezoid. [*The use of the accompanying grid is optional.*]



CONCLUSION: _____

2) Given the coordinates of Quadrilateral $JOHN$ are $J(0, -2)$, $O(9,1)$, $H(4, 6)$, $N(1, 5)$.
Prove that Quadrilateral $JOHN$ is an Isosceles Trapezoid.

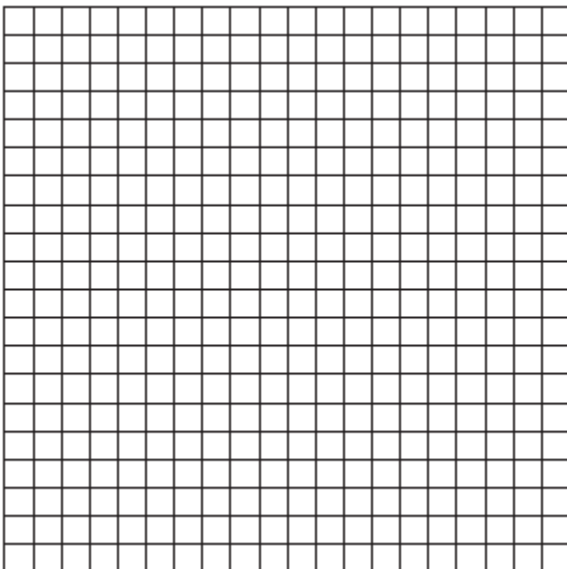


CONCLUSION: _____

3. Quadrilateral $KATE$ has vertices $K(1, 5)$, $A(4, 7)$, $T(7, 3)$, and $E(1, -1)$.

a) Prove that $KATE$ is a trapezoid. [The use of the grid is optional.]

b) Prove that $KATE$ is *not* an isosceles trapezoid.



CONCLUSION: _____

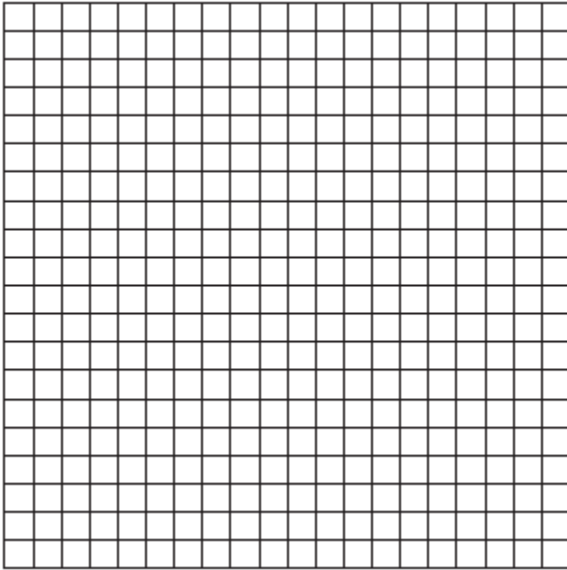
Name: _____

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UNIT 7

LESSON 11 HOMEWORK

1) The coordinates of quadrilateral $JKLM$ are $J(1, -2)$, $K(13, 4)$, $L(6, 8)$, and $M(-2, 4)$. Prove that quadrilateral $JKLM$ is a trapezoid but *not* an isosceles trapezoid. [The use of the grid is optional.]



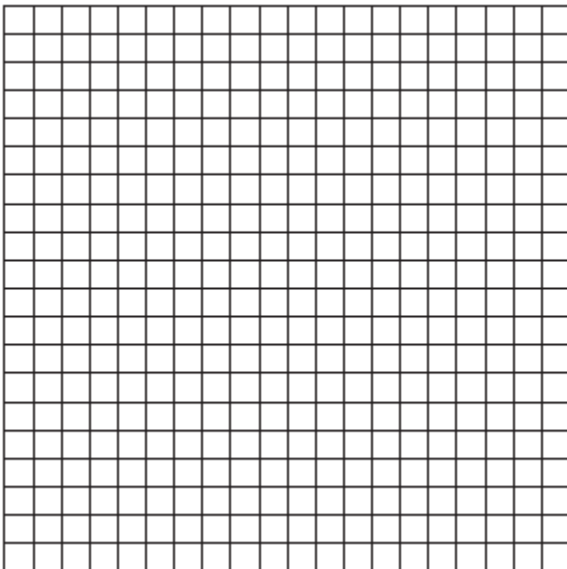
CONCLUSION: _____

2) Given: $T(-1, 1)$, $R(3, 4)$, $A(7, 2)$, and $P(-1, -4)$

Prove: $TRAP$ is a trapezoid.

$TRAP$ is not an isosceles trapezoid.

[The use of the grid is optional.]



CONCLUSION: _____