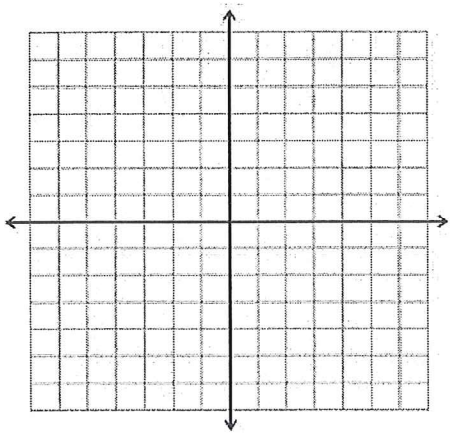
Name: _____ Hour: _____

TRAPEZOID HOMEWORK

1. Determine whether the figure with vertices E(-4,3), F(0,4), G(4,1), and H(4,-3) is a trapezoid. Explain if it is an isosceles triangle.

To be a trapezoid, you must test for one pair of opp. sides //

What about to be and isosceles trapezoid? non-// sides = distance



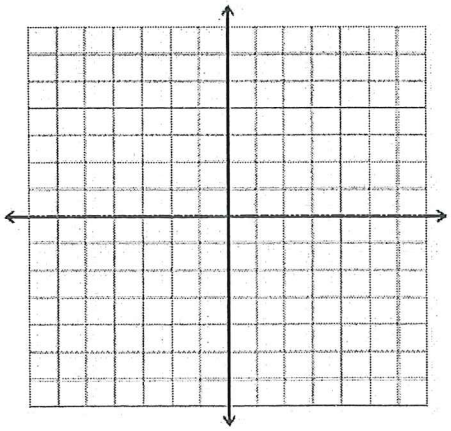
General Trapezoid

Show all work!

2. Determine whether the figure with vertices E(-3,2), F(-1,6), G(4,6), and H(6,2) is a trapezoid. Explain if it is an isosceles triangle.

To be a trapezoid, you must test for _____

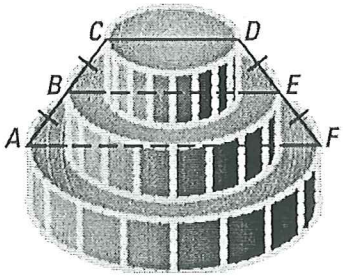
What about to be and isosceles trapezoid? _____



Isosceles Trapezoid

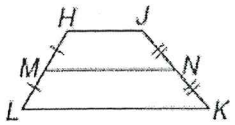
Show all work!

3 **LAYER CAKE** The top layer of the cake has a diameter of 10 inches. The bottom layer has a diameter of 22 inches. What is the diameter of the middle layer? 16 inches



Exercises

$\overline{MN}$ is the median of trapezoid $HJKL$. Find each indicated value.



1. Find MN if $HJ = 32$ and $LK = 60$.

MN = 46

2. Find LK if $HJ = 18$ and $MN = 28$.

LK = 38

3. Find MN if $HJ + LK = 42$.

MN = 21

4. Find $m\angle LMN$ if $m\angle LHJ = 116$.

∠LMN = 116

5. Find $m\angle JKL$ if $HJKL$ is isosceles and $m\angle HLK = 62$.

∠JKL = 62

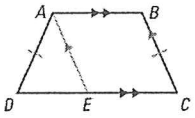
6. Find HJ if $MN = 5x + 6$, $HJ = 3x + 6$, and $LK = 8x$.

HJ = 24

7. **GIVEN** ▶ $ABCD$ is an isosceles trapezoid.

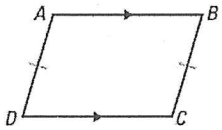
$\overline{AB} \parallel \overline{DC}$, $\overline{AD} \cong \overline{BC}$

PROVE ▶ $\angle D \cong \angle C$,



1. _____	1. _____
2.ABCE is a parallelogram	2. def of parallelogram
3._____	3. op. sides of a parallelogram ≅
4. <C ≅ <AED	4._____
5. <D ≅ <AED	5. base <s of isosceles Δ ≅
6._____	6. _____

8. **ERROR ANALYSIS** A student says that parallelogram $ABCD$ is an isosceles trapezoi because $\overline{AB} \parallel \overline{DC}$ and $\overline{AD} \cong \overline{BC}$. Explain what is wrong with this reasoning.



STUDYING A TRAPEZOID Draw a trapezoid $PQRS$ with $\overline{QR} \parallel \overline{PS}$. Identify the segments or angles of $PQRS$ as *bases*, *consecutive sides*, *legs*, *diagonals*, *base angles*, or *opposite angles*.

10. $\overline{QR}$ and $\overline{PS}$

11. $\overline{PQ}$ and $\overline{RS}$

12. $\overline{PQ}$ and $\overline{QR}$

13. $\overline{QS}$ and $\overline{PR}$

14. $\angle Q$ and $\angle S$

15. $\angle S$ and $\angle P$