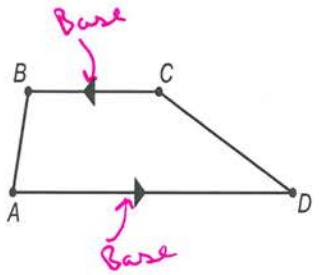
Geometry – Mr. Bo
Unit 6 – Day 4 Notes

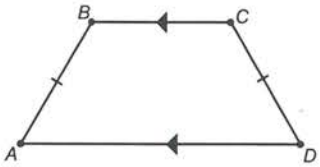
Name: _____
Date: _____

Trapezoids

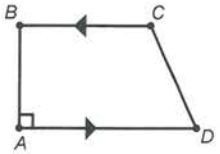
Trapezoid: Quad. with 1 pair of // sides.



Base < pair : <A and <D
<B and <C.



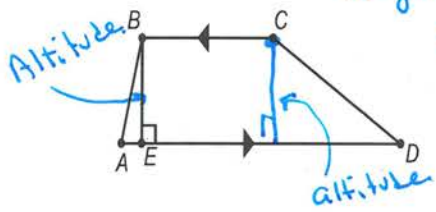
Isosceles Trapezoid.



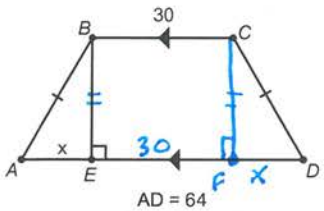
Right Trapezoid.

Trapezoid Altitude:

* goes from a vertex ⊥ to the base on the opposite side.



Example: Find the value of x.



△ABE ≅ △DCF by H.L.

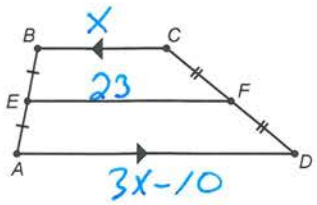
x + 30 + x = 64 by Seg. Addition.

2x + 30 = 64

2x = 34

x = 17.

Trapezoid Median: Connects the midpoints of the non-// sides.



Theorem 1: // to Both of the bases.

Theorem 2: 1/2 the sum of the lengths of the bases.

Example: Trapezoid ABCD with Median EF. $BC = x$, $EF = 23$, $AD = 3x - 10$.
Find the value of x.

2(23) = x + 3x - 10

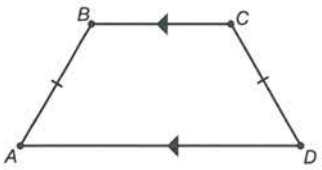
46 = 4x - 10

56 = 4x

x = 14

Isosceles Trapezoid: trap. with non-// sides $\cong$.

Theorem 1: Base $\angle$'s of Isosc. trap are $\cong$.

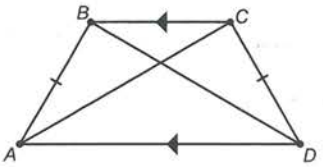


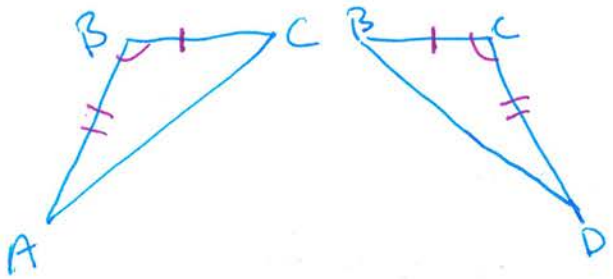
$\angle B \cong \angle C$

and

$\angle A \cong \angle D$.

Theorem 2: Diagonals of an Isosc. trap are $\cong$.





$\triangle ABC \cong \triangle DCB$ by SAS.

So, Diags $\overline{AC} \cong \overline{DB}$ by CPCTC.

*notice: the diags DO NOT bisect each other.

What if they did?

then ABCD would be a //-gram!