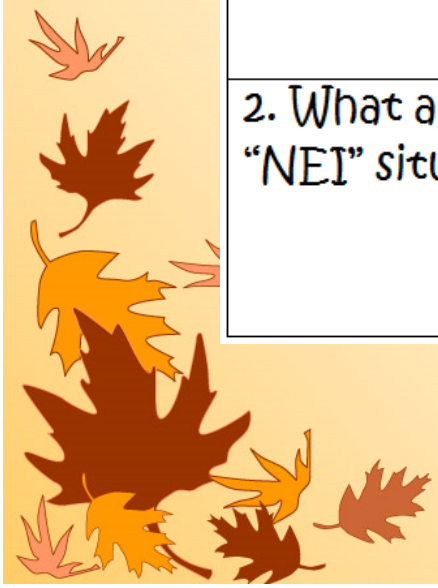
Bellwork: Tuesday 11/18

Concept:
1. What is the difference between ASA and AAS?
2. What are the two situations that yield an "NEI" situation?



REVIEW

Distance between two points

$d=\sqrt{(x_2-x_1)^2+(y_2-y_1)^2}$

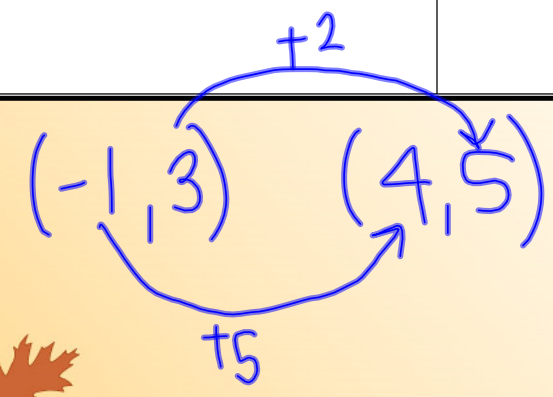
$d=\sqrt{(run)^2+(rise)^2}$

~~Midpoint~~

$slope=\frac{rise}{run}$

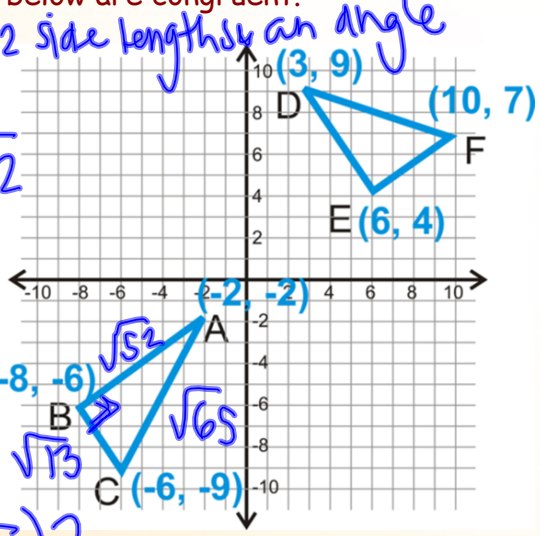
- parallel: same slope
- oblique: no relation
- perpendicular: opp. reciprocal, make 90° ∠

	Distance	~~Midpoint~~ slope
1) (−1, 3) (4, 5)	$d = \sqrt{(run)^2 + (rise)^2}$ $= \sqrt{(5)^2 + (2)^2} = \sqrt{25+4}$ $= \sqrt{29}$	$m = \frac{2}{5}$
2) (1, −3) (5, −4)		



Directions: Determine if the following triangles below are congruent.

Prove the following are congruent by SAS. → 2 side lengths & an angle



$AB = \sqrt{(4)^2 + (6)^2} = \sqrt{16+36} = \sqrt{52}$

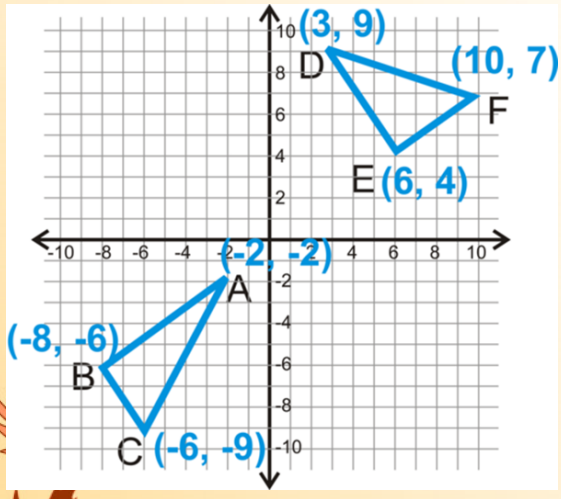
$BC = \sqrt{(-3)^2 + (2)^2} = \sqrt{9+4} = \sqrt{13}$

$AC = \sqrt{(-7)^2 + (-4)^2} = \sqrt{49+16} = \sqrt{65}$

$(\sqrt{52})^2 + (\sqrt{13})^2 = (\sqrt{65})^2$

$52 + 13 = 65$ ✓ Right Δ

$m_{AB} = \frac{4}{6} = \frac{2}{3}$ $m_{BC} = \frac{-3}{2}$



$DF = \sqrt{(-2)^2 + (+7)^2}$

$= \sqrt{4 + 49} = \sqrt{53}$

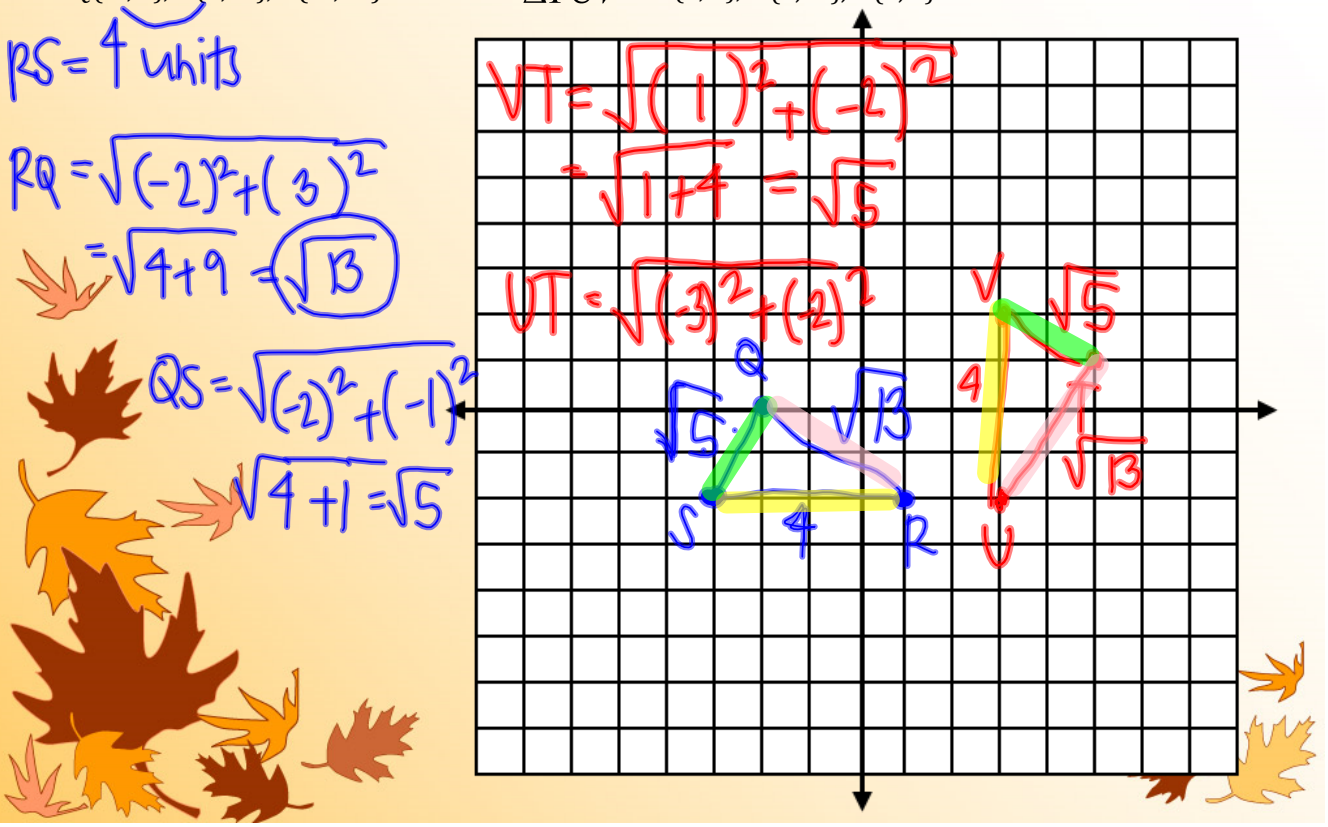
$DE = \sqrt{(-5)^2 + (3)^2}$

$= \sqrt{25 + 9} = \sqrt{34}$

The $\triangle$s are NOT $\cong$ because corresponding sides are not $\cong$.

Graph each triangle. Use the distance formula and SSS to determine whether the triangles are congruent.

$Q(-2, 0),\ R(1, -2),\ S(-3, -2)$ ΔTUV : $T(5, 1),\ U(3, -2),\ V(3, 2)$



Distance formula: to find side lengths

$\overline{RS} \cong \overline{UV}$. $\overline{SQ} \cong \overline{VT}$. $\overline{QR} \cong \overline{TV}$.

So, by SSS $\triangle QRS \cong \triangle TUV$.