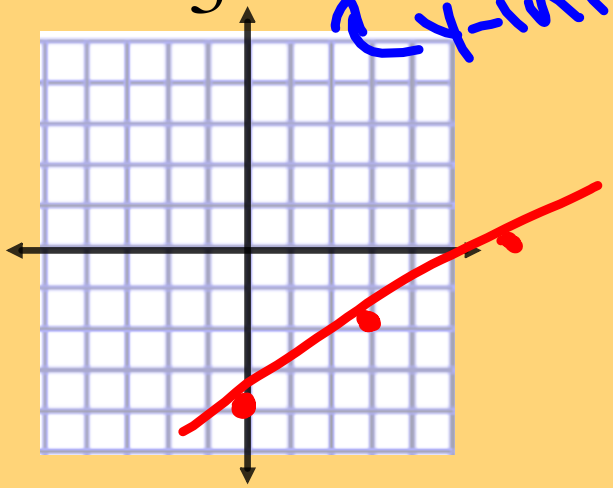
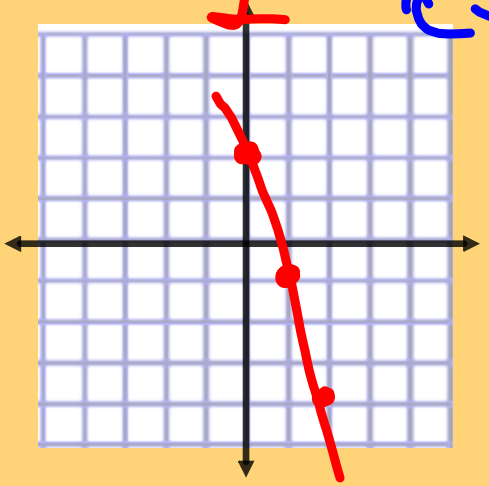
10/31/19 - Warm Up Problem

$y = \frac{2}{3}x - 4$

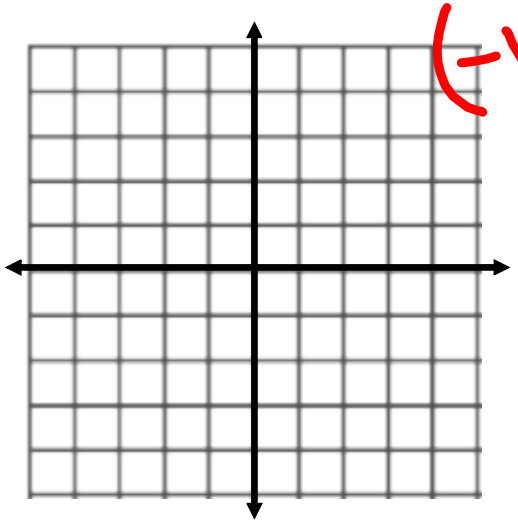


$y = -3x + 2$



Graphing Lines Review

$y = -\frac{2}{3}x - 5$



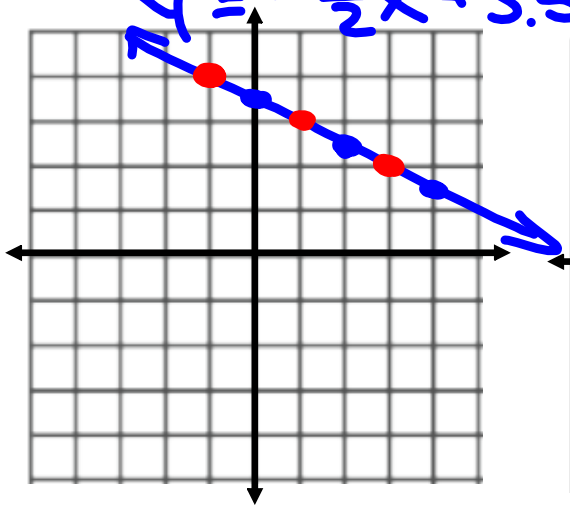
$y - 4 = -\frac{1}{2}(x+1)$

$(-1, 4)$

$y - 4 = -\frac{1}{2}x - \frac{1}{2}$

$+4 \quad +4$

$y = -\frac{1}{2}x + 3.5$

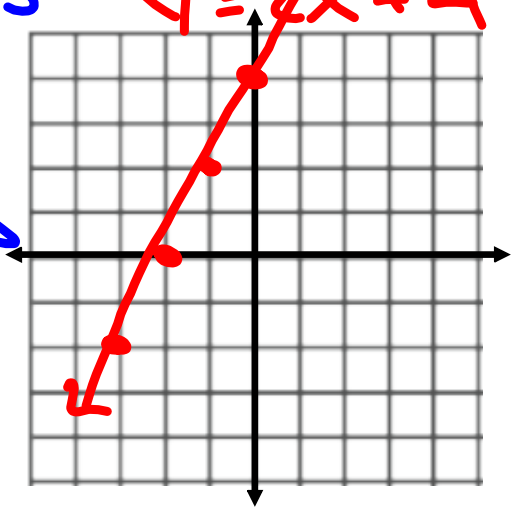


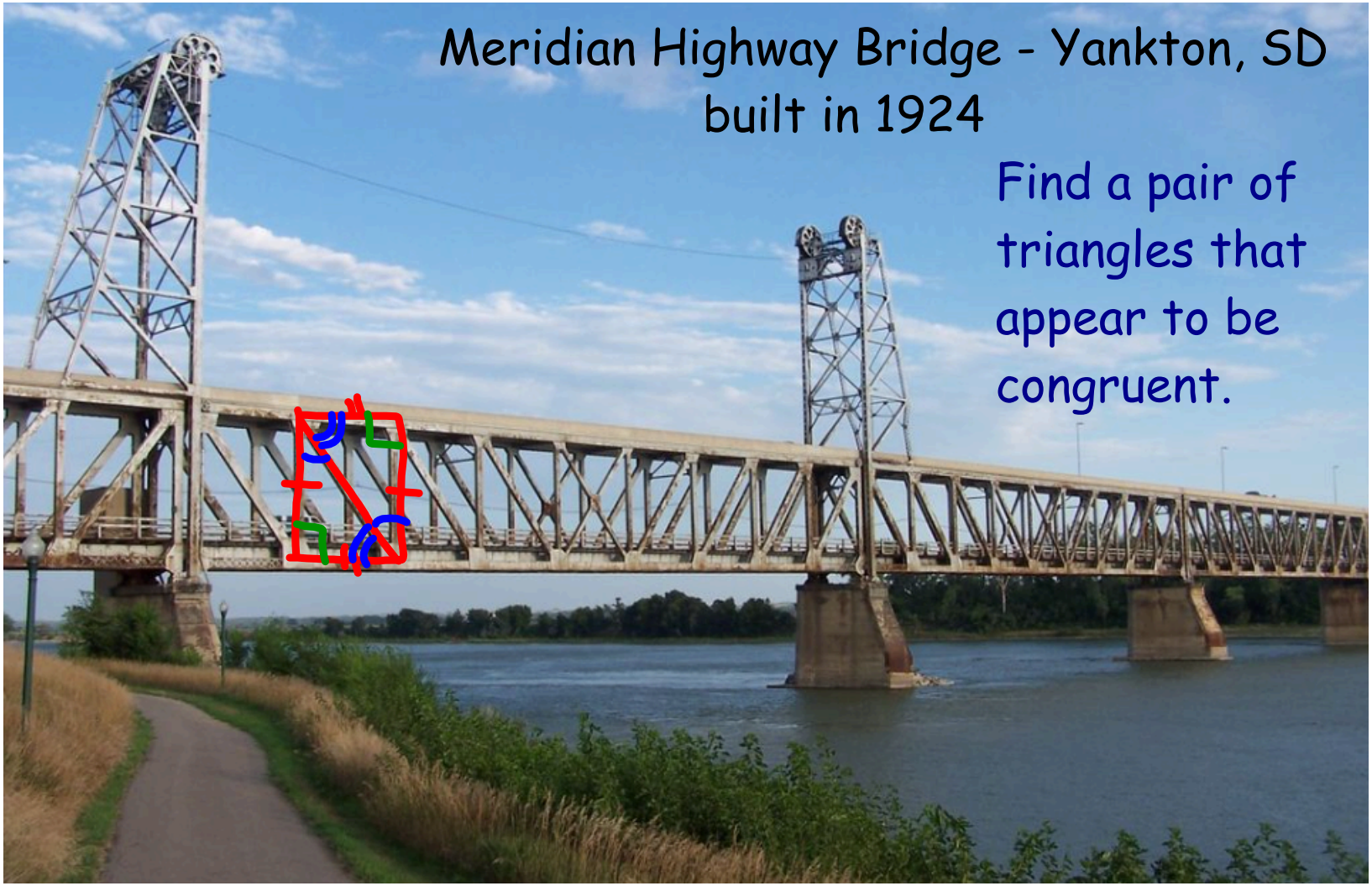
$y + 2 = 2(x+3)$

$y + 2 = 2x + 6$

$-2 \quad -2$

$y = 2x + 4$




Meridian Highway Bridge - Yankton, SD
built in 1924
Find a pair of triangles that appear to be congruent.

Section 4.1 - Congruent Figures

Goals

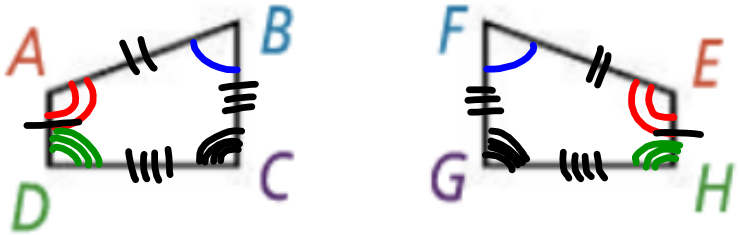
- identify congruent figures and write congruence statements
- name corresponding parts of congruent figures

Congruent Polygons: same shape and same size

- Have corresponding angles that are congruent
- Have corresponding sides that are congruent

Congruence Statement:

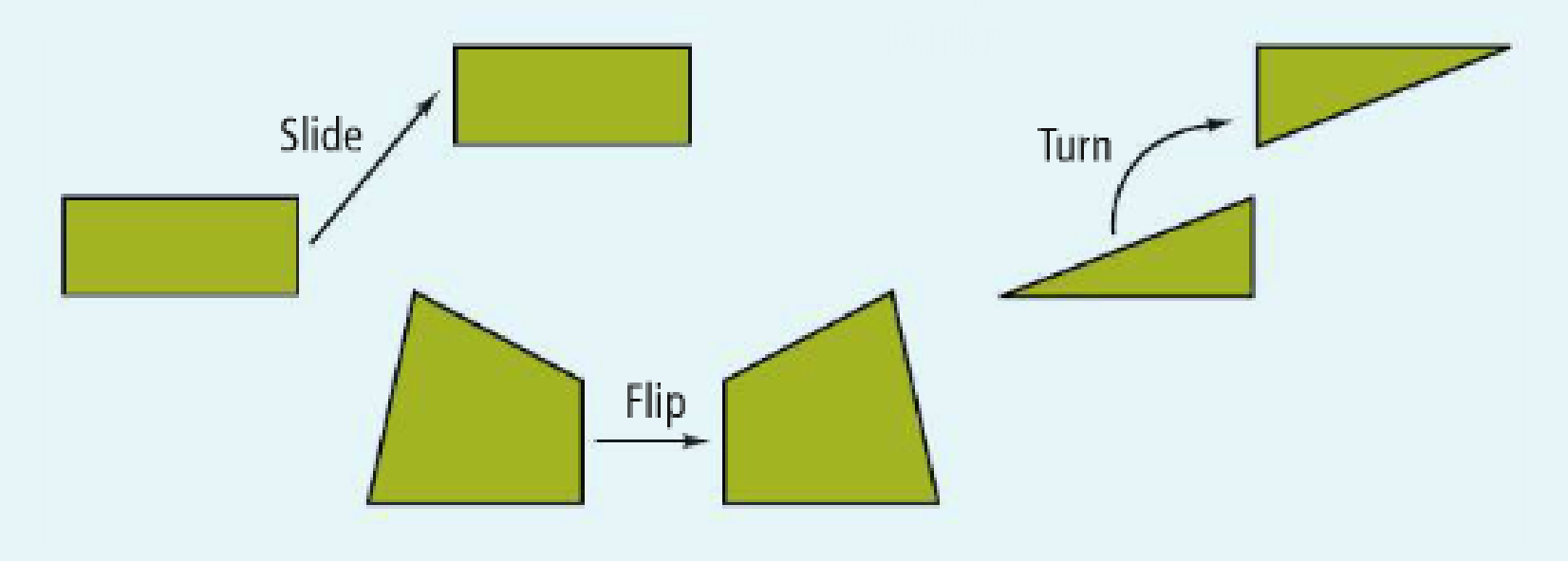
- a statement saying that two figures are congruent
- corresponding angles must be lined up



Write a congruence statement for the quadrilaterals.

$ABCD \cong EFGH$

When two figures are congruent, you can flip, turn, or slide one so that it fits exactly on the other.



$\Delta ABC \cong \Delta EFG$

List the congruent corresponding parts.

Congruent Angles

$\angle A \cong \angle E$

$\angle B \cong \angle F$

$\angle C \cong \angle G$

Congruent Sides

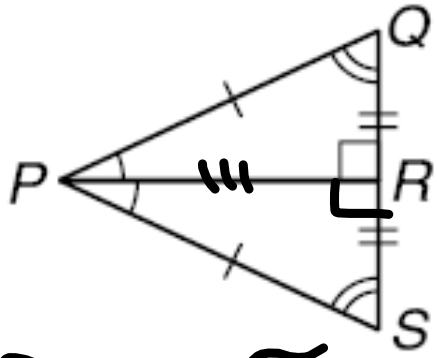
$\overline{AB} \cong \overline{EF}$

$\overline{BC} \cong \overline{FG}$

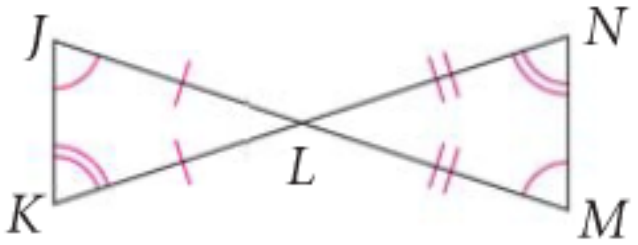
$\overline{AC} \cong \overline{EG}$

Finding Congruent Triangles

Which pair of triangles are definitely congruent?



$\triangle PQR \cong \triangle PSR$

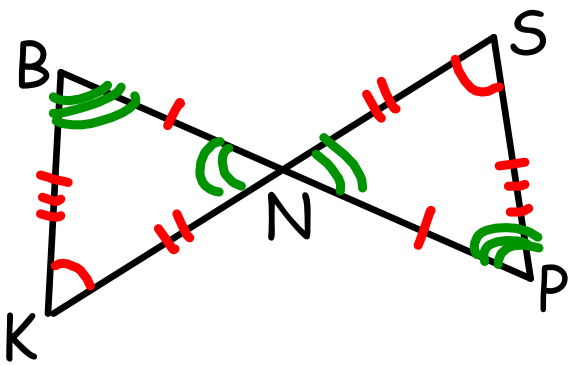


Not Possible

A helpful theorem...

Third Angle Theorem

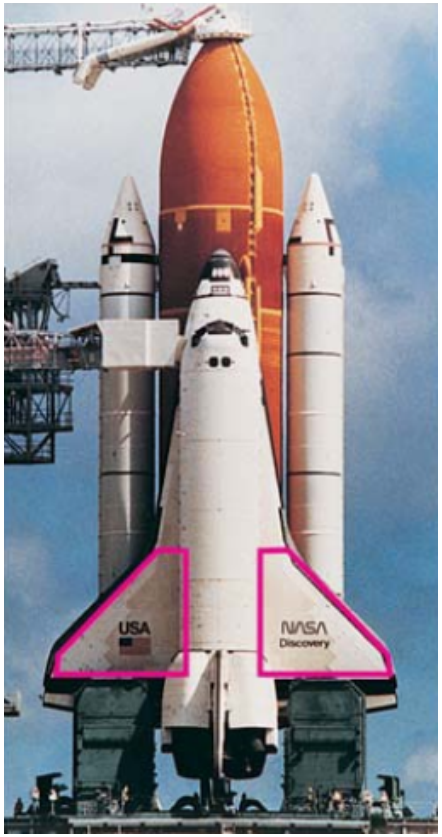
If two angles of one triangle are congruent to two angles of another triangle, then the third angles are congruent.



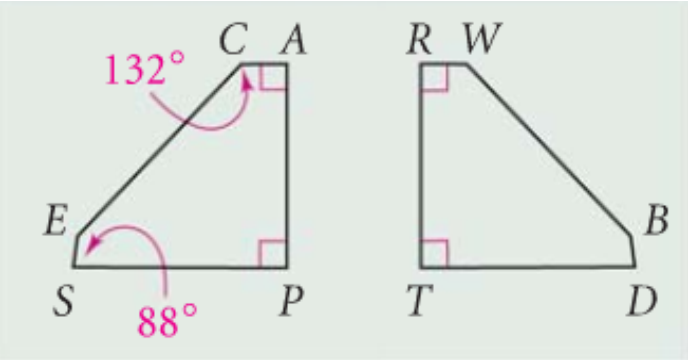
Are these triangles congruent? Justify your answer.

$\triangle BNK \cong \triangle PNS$

Using Congruent Parts



The wings of space shuttles and other aircraft must be congruent polygons.



$m\angle W = 132°$

$m\angle D = 88°$

No Assignment