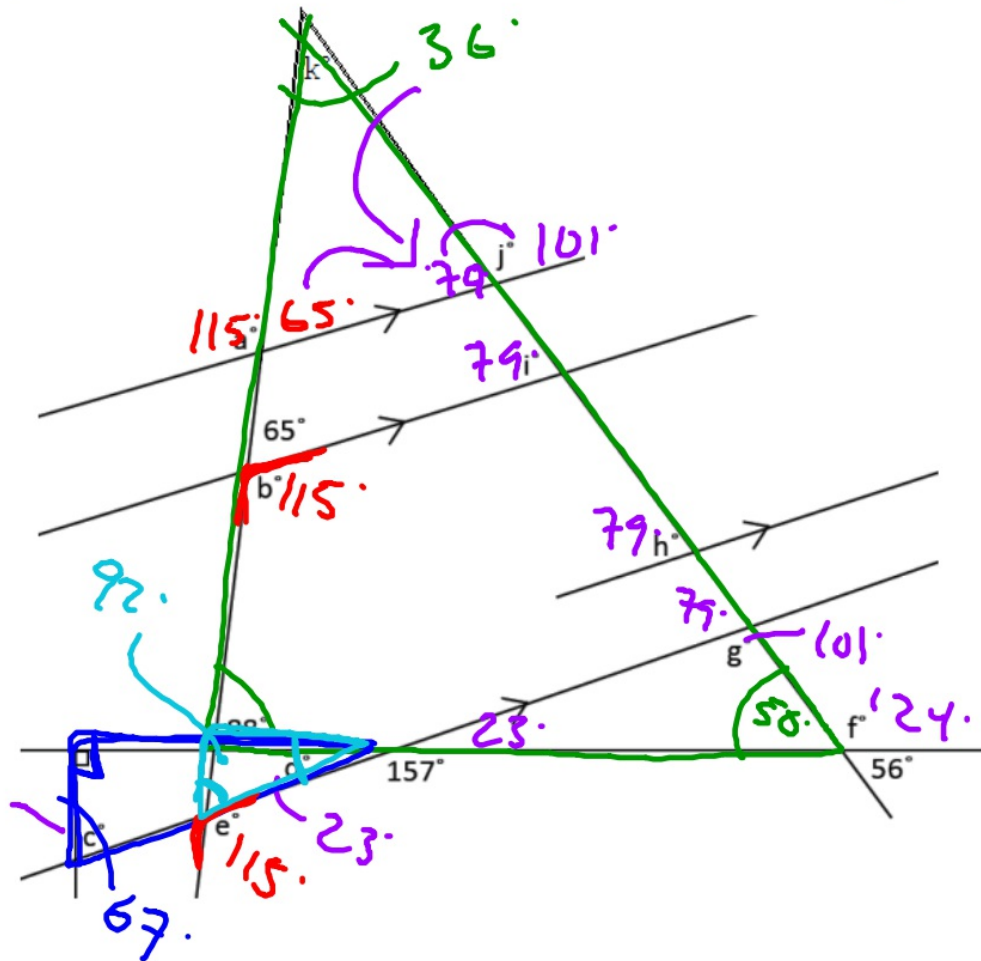


Good afternoon: attach warm up to notes, then find the angles.

\*\*will need a device today if you have one\*\*



# Transformations

NOTES

## Why study them?

- animation, design, programming
- understanding symmetry
- choreography
- ??? more to discover!

<https://www.youtube.com/watch?v=MHiaNY3idLA>





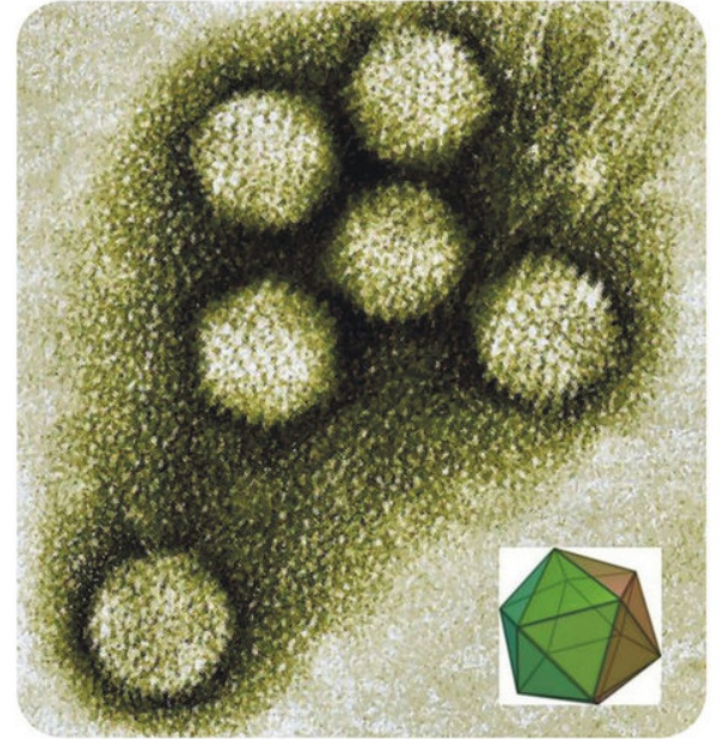
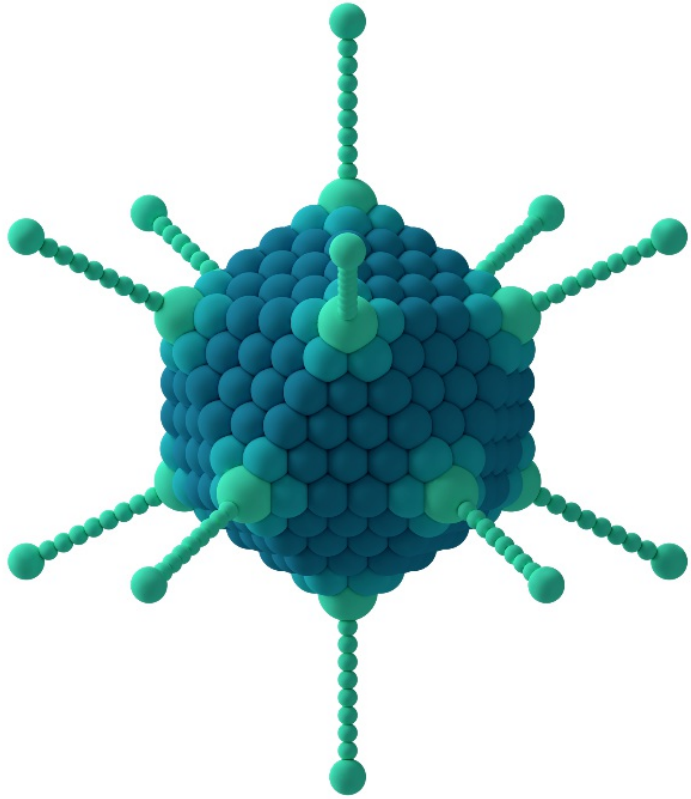














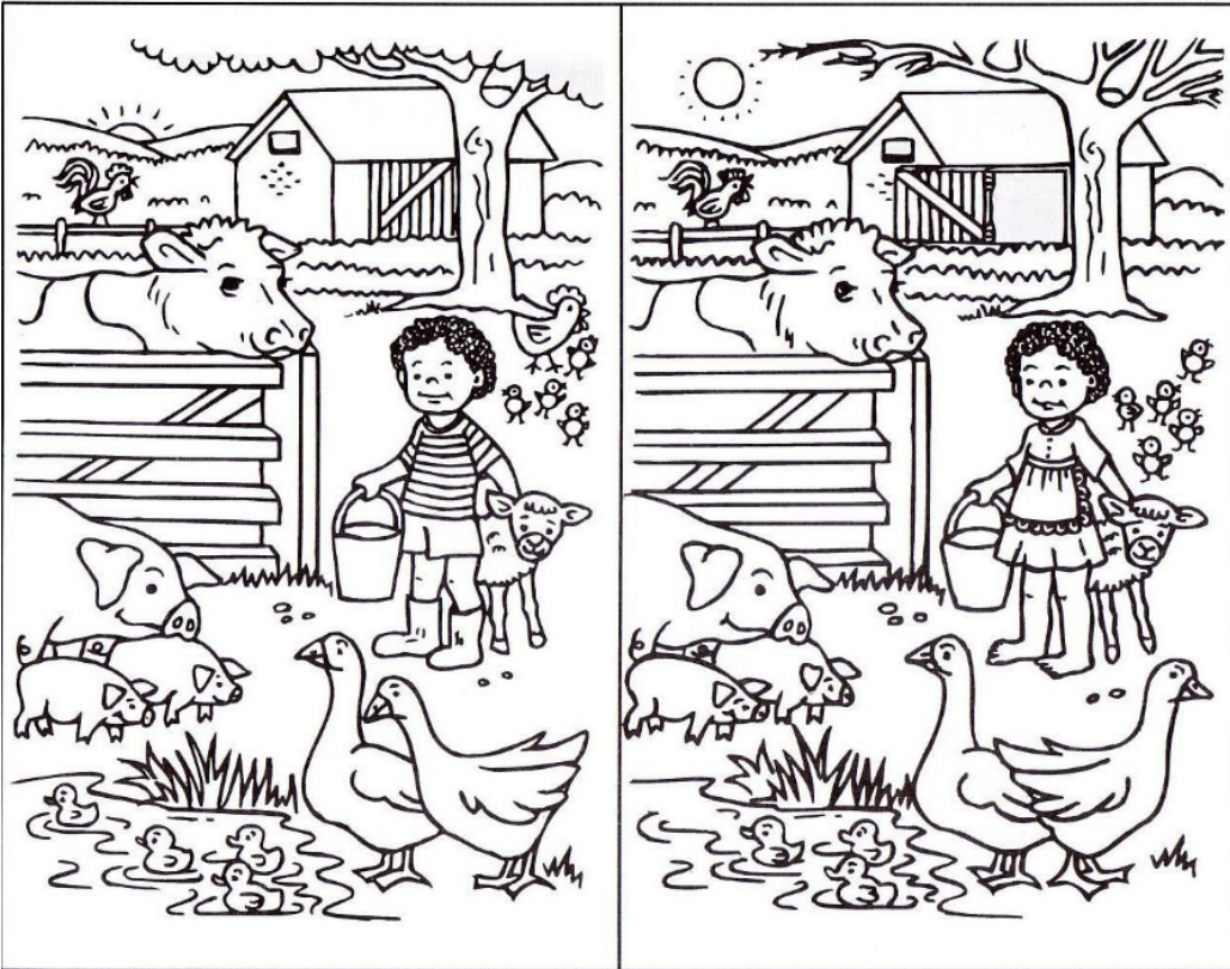
Central question:

How can we describe and quantify motion?

How can we use this to better understand congruence?

## Congruence and Isometries

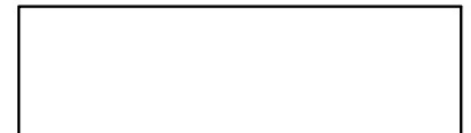
Are these images congruent?



PRIVATELY  
spot at least 3  
differences

Share with  
elbow partner

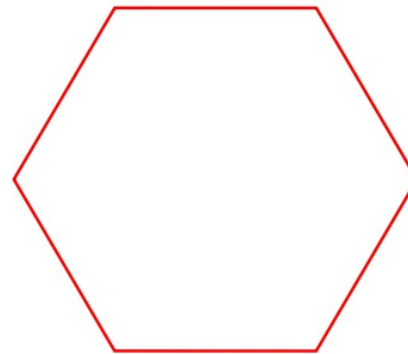
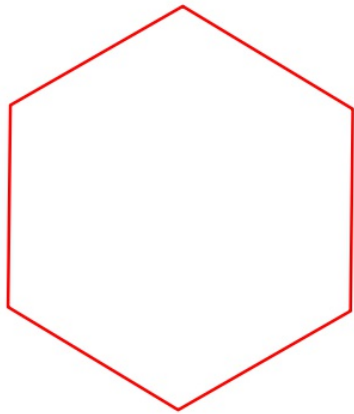
Think of how  
to find ALL  
differences at once



## Congruence and Isometries

NOTES

Two figures are congruent if and only if you can show that one figure can be carried onto the other with a sequence of rigid motions (isometries). (translations, reflections, rotations).





## Practice with Transformations

Create a coordinate grid and plot+label the points, creating a quadrilateral

A(-3,3)

B(-1,1)

C(2,3)

D(0,5)

Apply the transformation  $(x,y) \rightarrow (x+4, y-3)$   
to each coordinate pair **arrow notation**

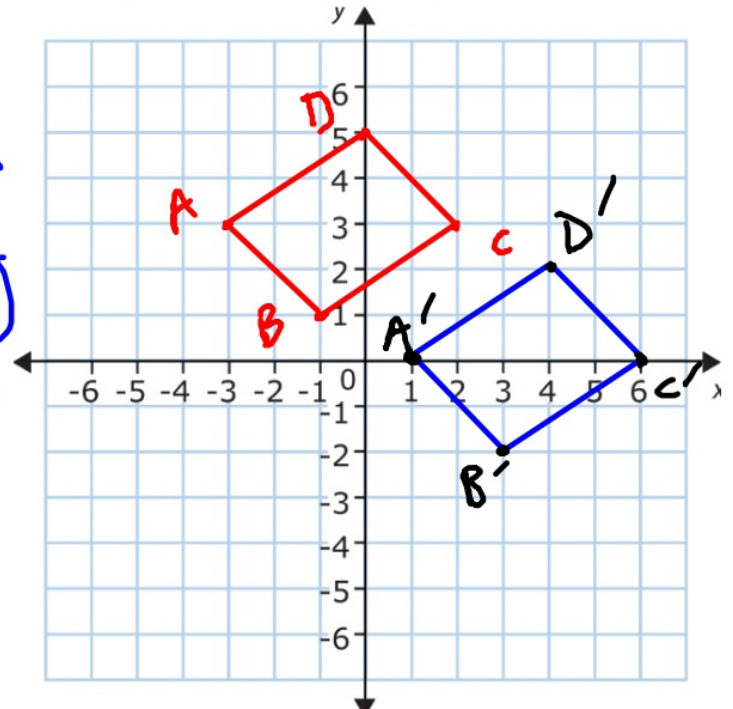
A'(1, 0)

B'(3, -2)

C'(6, 0)

D'(4, 2)

"right 4"  
"down 3"



Plot and label the points, connecting them to make the image. What kind of isometry was performed?



How can we accurately describe Ms. Pacman's movement?





Goal: list out the specific steps Ms. Pacman uses to move around

Work with your elbow partner  
Will need a device to re-play video  
[mgeo.weebly.com/pacman](http://mgeo.weebly.com/pacman)

Use grid and manipulative Pacmans  
to play/experiment with  
rotations and reflections if needed

1. Reflect Horizontally.
2. Translate 2 units Right.
3. Rotate C.C.W.  $90^\circ$
- 4.

HW: p106-7: #8-11

Continue planning project...  
theme + selected terms due Monday