Thursday, February 21, 2019

- Warm-up

  Transform ΔEFG using the following rules.
  Write each answer as a matrix.

  1. (x, y) → (x + 4, y)
  2. (x, y) → (x, y – 2)
  3. (x, y) → (-y – 1, x + 1)

$$\Delta EFG = \begin{bmatrix} 5 & 4 & 8 \\ 1 & 5 & 6 \end{bmatrix}$$

Objectives:

Content: I will use rules to produce rigid transformations.

Social: I will participate in the class activities and support my group.

LO: I will explain how to *translate, rotate, and reflect rigid shapes using rules*.

Transform ΔEFG using the following rules.
Write each answer as a matrix.

$$\Delta EFG = \begin{matrix} x \\ y \end{matrix}\begin{bmatrix} \overset{E}{5} & \overset{F}{4} & \overset{G}{8} \\ 1 & 5 & 6 \end{bmatrix}$$

1. $(x, y) \rightarrow (x + 4, y)$ $\begin{bmatrix} 9 & 8 & 12 \\ 1 & 5 & 6 \end{bmatrix}$

2. $(x, y) \rightarrow (x, y - 2)$ $\begin{bmatrix} 5 & 4 & 8 \\ -1 & 3 & 4 \end{bmatrix}$

3. $(x, y) \rightarrow (-y - 1,\ x + 1)$ $(x, y) \rightarrow (-y-1, x+1)$ $\begin{bmatrix} -2 & -6 & -7 \\ 6 & 5 & 9 \end{bmatrix}$

Objectives:

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Reflections

Let's Complete the Transformation Rules Table

Geometric Idea	Coordinate Model
Translation	
Reflection across x-axis	
Reflection across y-axis	
Reflection across line y = x	
Reflection across line y = -x	
90° counterclockwise rotation	
180° rotation	
270° counterclockwise rotation	

Upcoming PBL

* admission?

Current Prices

Amt of people each day?

Utilities - water, electricity

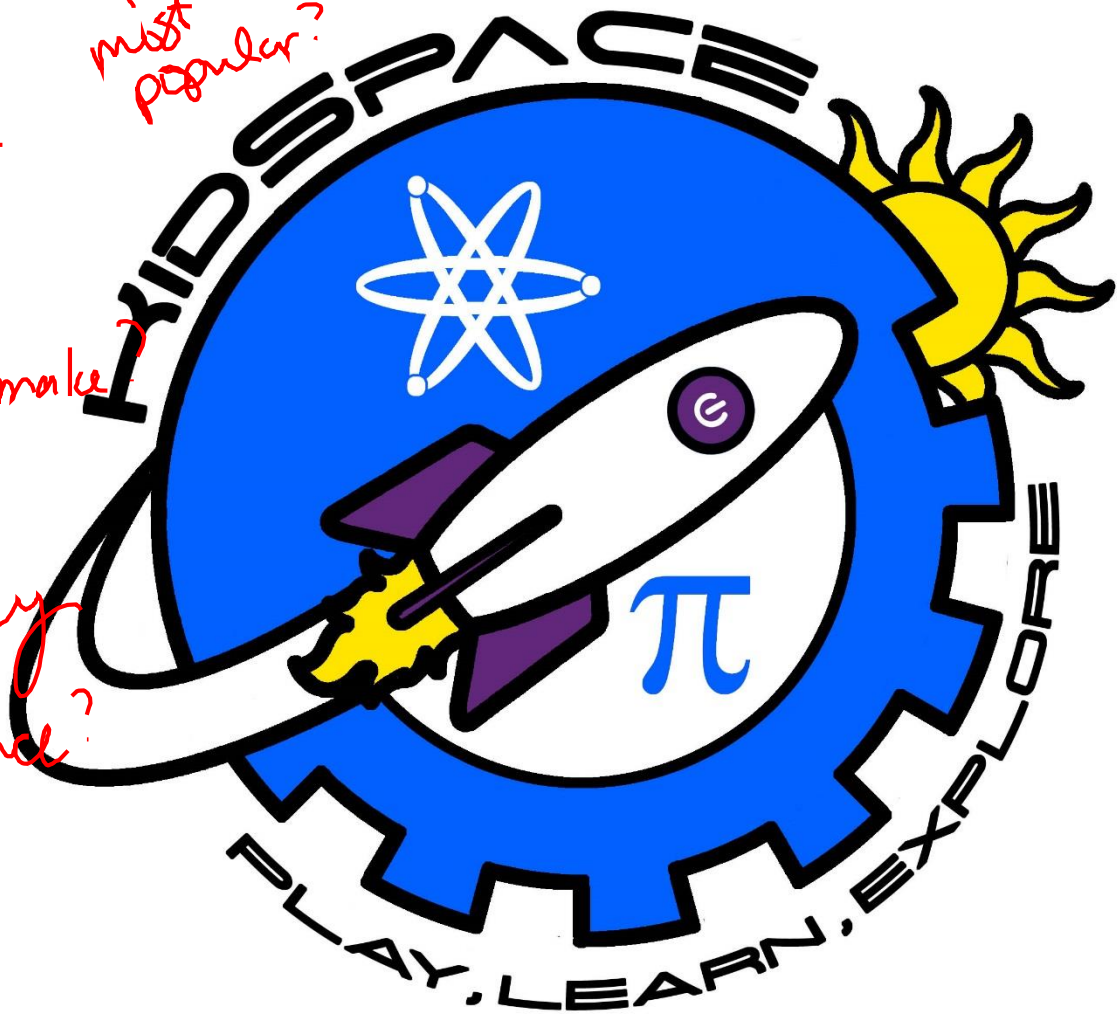
Snacks? ↑ most popular?

current profit

employees
- how much they make?
- how many?

Repairs?
- cost, frequency

Injuries = insurance?



Quiz

Pg205

Check Your Understanding

Consider the following matrix representation of $\triangle ABC$.

$$\triangle ABC = \begin{bmatrix} -1 & 4 & 3 \\ 2 & -3 & 5 \end{bmatrix}$$

A' B' C'

a. On separate grids, sketch and label $\triangle ABC$ and its image under each of the following transformations.

- **i.** Reflection across the y-axis
- **ii.** Translation with horizontal component -3 and vertical component 2
- **iii.** Reflection across the line $y = x$
- **iv.** Rotation of 180° about the origin
- **v.** Rotation of 90° counterclockwise about the origin

b. For one of the transformations in Part a, use coordinates to show that $\triangle ABC$ and its transformed image are congruent.