Geometry

Quarter 1 Unit 4: Transformations

https://www.widewalls.ch/tessellation-mathematics-method-art/

"He who wonders discovers that this in itself is wonder." –M.C. Escher

overview

In the previous unit we were introduced the angels created when a line cuts through parallel lines. In this unit, we prepare to work with shapes and their angles by first looking at different transformations. There are four types of transformations: translations, reflections, rotations, and dilations. Each of these can tell us something about a shape's congruency or similarity.

guiding question 4: What are the different types of transformations that a shape can undergo?

lessons

Monday 11/26 Tuesday 11/27	4.1 Translations **Objectives:** Students will: ● perform translations ● perform compositions ● solve real-life problems with compositions **Vocabulary:** vector, initial point, terminal point, horizontal component, vertical component, component form, transformation, image, preimage, translation, rigid motion, composition of transformations **Practice Set:** 4.1 Practice A
Thursday 11/29 Friday 11/30	4.2 Reflections **Objectives:** Students will: ● perform reflections ● perform glide reflections ● identify lines of symmetry ● will solve real-life problems involving reflections **Vocabulary:** reflection, line of reflection, glide reflection, line symmetry, line of symmetry **Task:** Paper Snowflakes **Practice Set**: 4.2 Practice A
Monday 12/03 Tuesday 12/04	4.3 Rotations **Objectives:** Students will: ● perform rotations ● perform compositions with reflections ● identify rotational symmetry **Vocabulary:** rotation, center of rotation, angle of rotation, rotational symmetry, center of symmetry **Task:** Names **Practice Set**: 4.3 Practice A
Thursday 12/06 Friday 12/07	4.4 Congruence and Transformations **Objectives:** Students will: ● identify congruent figures ● describe congruence transformations ● use theorems about congruence transformations **Vocabulary:** congruent figures, congruence transformation **Practice Set**: 4.4 Practice A

Monday 12/10 Tuesday 12/11	4.5 Dilations **Objectives:** Students will: ● identify and perform dilations ● solve real-life problems involving scale factors and dilations **Vocabulary:** dilation, center of dilation, scale factor, enlargement, reduction **Task:** Magic of Optics **Practice Set**: 4.5 Practice A
Thursday 12/13 Friday 12/14	4.6 Similarity and Transformations **Objectives:** Students will: ● perform similarity transformations ● describe similarity transformations ● prove that figures are similar **Vocabulary:** similarity transformation, similar figures **Practice Set**: 4.6 Practice A
Monday 12/17 Tuesday 12/18	Vocabulary due today! Review for Test Assessment Unit 4

Assignment Guidelines:

Individual Work

Vocabulary: (Create a Graphic Organizer, Mind Map, or Flash Cards for the vocab words of each section.)

- Due on the day of the Assessment

Practice Sets: You will find the problems in the textbooks located in the classroom **OR** in the pdf form on Google Classroom. You must complete the whole set and include a a reflection for full credit.

- Due the class after it is assigned
- Note: Late assignments are subject to 25% penalty. Assignments older than two weeks will not be accepted.

Warm Ups*:* Estimation180.com Be sure to submit your answer with your reasoning and name to receive full credit.

Group

Construction: Complete the activities and write out the steps for future reference.

- Due at the end of class

Tasks: Due as set by deadline