

HG Unit 9 Assignment Sheet

Transformations

Day	Date	Topics	Homework
1	Wed., 5/9	"12-1" Reflections "12-2" Translations	p. 636 1-3, 10-16 E; 27-29; 32; 38-44 E p. 643 12, 14, 18, 22, 30 (find algebraically), 36, 40, 41, 42, 44
2	Thurs., 5/10	"12-3" Rotations "12-4" Composition of Reflections	p. 649 10-19 all; 35 & 36 p. 657 2, 4, 8, 12, 16, 34, 36, 38-46 E
Review	Fri., 5/11	Review focused on Unit 7 (Area and Volume)	
3	Mon., 5/14	Review for Quiz	finish review for quiz & study
4	Tues., 5/15	** Quiz **	
5	Wed., 5/16	"12-5" Symmetry "12-7" Dilations	p. 664 2, 4, 8, 14, 22, 26, 28, 38, 40, 42, 44 p. 676 2, 4, 10, 18, 20, 22, 36, 42, 44, 46, 54, 57-61 all
6	Thurs., 5/17	Review	Finish review & STUDY!!
7	Fri., 5/18	** Unit 9 Test** **Tangram Project DUE**	

Extra Practice:

Chapter Review p. 681 exs 1-14 all; 15-17 pick one; 18-40 omit 34 & 35

Chapter Test p. 684 1-14 & 25-30 all

Extra Practice: p. 701 examples 1-29

Web Site: <http://www.shodor.org/interactivate/activities/TransmographerTwo/>

Dilations: <http://regentsprep.org/Regents/Math/codilate/PracCoD.htm>

Reflections: <http://regentsprep.org/Regents/Math/coreflec/Prac1.htm>

Theorem: A translation or rotation is a composition of two reflections

Theorem: A composition of two reflections in parallel lines is a translation

Theorem: A composition of reflections in two intersecting lines is a rotation.

Theorem: In a plane, one of two congruent figures can be mapped onto the other by a composition of at most 3 reflections

Theorem: There are only 4 **isometries**: reflections, translations, rotations, & glide reflections

Theorem: Every triangle tessellates

Theorem: Every quadrilateral tessellates

Vocabulary:

transformation: changes in the position, shape, or size of a geometric figure

pre-image: the original figure in a transformation

image: the resulting figure in a transformation

isometry: a transformation in which the pre-image and the image are congruent

reflection in line r : a transformation for which

(a) if a point is on line r , then the image of A is A

(b) if point B is not on r , then r is the perpendicular bisector of $\overline{BB'}$

translation: (slide) is an isometry that maps all points in a figure the same distance and in the same direction.

composition: a combination of two or more transformations

rotation: (turn) of x° about point R is a transformation so that

(a.) the image of R is itself

(b) for any point V , $RV' = RV$ and $m\angle VRV' = x^\circ$

glide reflection: the composition of a glide and a reflection

symmetry: an isometry that maps the figure onto itself

reflectional symmetry: if one half of a figure is a mirror image of the other half (line symmetry)

rotational symmetry: if a figure is its own image for some rotation of 180° or less.

point symmetry: if a figure has 180° rotational symmetry

glide reflectional symmetry: a glide reflection that maps a tessellation on the itself

dilation: with center C and a scale factor “ n ” is a transformation in which

(a) the image of C is C

(b) for any point R , R' is on \overline{CR} and $CR' = n \cdot CR$

enlargement: when the scale factor “ n ” is greater than 1

reduction: when the scale factor “ n ” is less than 1