

## Amusement Park Ride

You have been employed by the World’s Greatest Amusement Park to design their newest and most exciting ride. In order to do so you must prove to your new employers that you have a basic geometry background and can use this information in the ride design. Each new ride must be designed on paper prior to the actual formation of the ride. *As a group, you will design the ride; however, the rubric will apply to each individual student, using the group’s ride design.*

		Novice	Apprentice	Practitioner	Expert
<b>Individual Research Report on the History of Geometry</b>		includes 3 of the 5 items listed in <i>Practitioner</i>	includes 4 of the 5 items listed in <i>Practitioner</i>	<ul style="list-style-type: none"> <li>• 3 or more paragraphs</li> <li>• typed</li> <li>• 1 or more correctly-cited references</li> <li>• includes Euclid and Descartes</li> <li>• names and describes 4 different types of geometry</li> </ul>	All of <i>Practitioner</i> plus: <ul style="list-style-type: none"> <li>• describes applications of Euclid and Descartes</li> <li>• compares and contrasts 4 different types of geometry</li> </ul>
<b>Ride Design</b> (group project unless indicated)	<b>Basic Point, Line, and Ray</b>	Labels 2 of 4 practitioner items correctly	Label 3 of 4 practitioner items correctly	<ul style="list-style-type: none"> <li>• labels a point</li> <li>• labels a ray</li> <li>• labels two of three different types of lines (parallel, intersecting, and perpendicular)</li> </ul>	All of Practitioner plus 2 examples of real life use of point, ray and 3 types of lines (individually completed on separate piece of paper)
	<b>Angles</b>	Labels each type of angle in practitioner or each of the following pairs of angles: vertical, adjacent, supplementary, complementary	Labels 1 of each type of angle in practitioner and labels one pair of vertical angle, adjacent, supplementary and complementary angles	<ul style="list-style-type: none"> <li>• labels and measures at least 2 of each type of angle; obtuse, right, acute straight</li> <li>• labels a pair of vertical angles, a pair of adjacent angles, a pair of supplementary angles, and a pair of complementary angles</li> </ul>	All of <i>Practitioner</i> plus: label and measure each pair of vertical angles, adjacent angles, supplementary angles, and complementary angles

	<b>Polygons</b>	Includes and labels 2 different regular polygons other than a triangle	Includes and labels 3 different regular polygons other than a triangle	Includes and labels 4-5 different regular polygons other than a triangle (including at least one parallelogram)	includes and labels more than 5 different regular polygons and 2 polygons that are not regular
	<b>Triangles</b>	Includes and labels 4 of 6 different triangles listed I practitioner	Includes and labels 5 of 6 different triangles listed in practitioner	Includes and labels 6 different triangles (scalene, isosceles, acute, obtuse, right, and equilateral)	measures the interior angles of one of each of the 6 different types of triangles
	<b>Circles</b>	Completes 2 of practitioner items	Includes 4 circles of two different sizes; labels and measures the diameter and radius of each circle.	Includes 4 circles having different sizes; labels and measures the diameter and radius of each circle	Includes more than 4 circles of different sizes, labels and measure the diameter and radius of each circle.
<b>Formulas (individual)</b>		All of practitioner missing steps/work with many incorrect answers	All of practitioner missing steps/work or several incorrect errors	Applies the proper formula and correctly calculates (showing all steps) the area and perimeter for one of each of the following shapes found in the design: triangle, square, rectangle, and parallelogram Applies the proper formula and correctly calculates (showing all steps) the area and circumference of one circle found in the design	Based on the given scale, determine the actual area & perimeter of practitioner shapes used.

<b>Interview with Licensing Officer</b>  <b>(individual)</b>	Each student correctly completes the application neatly;  Correctly answers less than 3 of 5 interview questions about the design	each student correctly completes the application neatly in ink;  correctly answers 3 out of 5 interview questions about the design	each student correctly completes the application neatly in ink; correctly answers 4 out of 5 interview questions about the design	Practitioner plus answers more than 5 interview questions about the design
<b>Prototype</b>  <b>(group)</b>	designs a portion of the ride using available classroom materials within one class period Includes color.	designs a portion of the ride using available classroom materials within one class period Includes color and ride name.	designs a portion of the ride using available classroom materials within one class period Includes color and ride name and individual student paragraph describing ride.	All of practitioner including a prototype of the ride using available classroom materials within one class.

Activity Sheet  
Individual Work

- Sheet # 1 Basis Concepts
- # 2 Types of Lines
- # 3 Types of Angle
- # 4 Using a Protractor
- # 4 Triangles
- # 5 Circles
- # 6 Polygons
- # 7 Quadrilaterals
- # 8 Formulas

Above to be organized in a notebook fashion

Journal Pages

- Measuring & Drawing Angles pg 163, 164
- Angle Relationship pg 167-168
- Drawing and Measuring Angles pg 182
- Angle Measures 195, 196, 197
- Circles 170, 171, 172
- Constructing Line Segments 188, 189
- Translations, Reflection & Rotations 180, 181

Properties of Parallelograms 200, 201, 2002  
Angle Problems 203  
Congruent Figures 184, 185

Study Link

Angle 5.1

Angle Relationship 5.2

Angle Relationship 5.7

Circle Graphs 5.3

Polygons on a Coordinate Grid 5.4

Parallelogram Problems 5.10

Similar Polygons 8.10

Area Problems 9.8

Tests

Geometry Basic Concepts

Unit 5 Checking Progress

Formulas