

GRADE 7 Shape and Space Specific Outcomes	Key Concepts in Geometry and Space underpinning Curriculum Outcomes from FSIM: Geometry and Space Resource Book	Sample Diagnostic Tasks and Activities	Sample Learning Tasks Selected from FSIM: Geometry and Space Resource Book (link to online document)	Math Station Ideas:
SS7.1 Demonstrate an understanding of circles including circumference and central angles.	Reason Geometrically KU3: • There are special words, phrases, and symbols that help us to think about and describe the shape and structure of things. Reason Geometrically KU4: • People have developed useful ways to classify shapes. Knowing that a shape is one of the standard types can tell us a lot about it. Computations KU6: • There are some special calculating methods that we can use for calculations we find hard to do in our head.		Geometry and Space, p. 205 • Glossary • Chart of Words • Geometric Symbols	“Wax Paper Protractor Projects” p. 305-306 TS-CM 6-8 “What is the Ratio of Diameter to Circumference?” p. 316-317 TS-CM 6-8 Dunk Tank!: Circles (online interactive) Angle Kung Fu (online interactive) Estimating Angles (online interactive) Circle Art Activity (document)

GRADE 7 Shape and Space Specific Outcomes	Key Concepts in Measurement underpinning Curriculum Outcomes from FSIM: Measurement Resource Book <i>Two</i> and Operation Sense	Sample Diagnostic Tasks and Activities	Sample Learning Tasks Selected from FSIM: Measurement Resource Book Two (link to online document)	Math Station Ideas:
SS7.2 Develop and apply formulas for determining the area of: • triangles • parallelograms • circles.	Indirect Measure KU1: • For certain types of shapes, we can describe the relationship between the lengths of their edges and their perimeters, areas, and volumes. Indirect Measure KU4: • We can calculate one measurement from others using relationships between quantities. Computations KU6: • There are some special calculating methods that we can use for calculations we find hard to do in our head.		Measurement Book <i>Two</i>, p. 32-38 • Pizza Trays • Which Pasture is Bigger? • Perimeter or Area? • House Plans • Triangle in a Rectangle • Five Triangles • Rearranging Parallelograms • Circles • Fringing Measurement Book <i>Two</i>, p. 76 • Using a Formula • Grazing Area • Can You Do It? • Missing Labels • Area Problems? Operations, pages 170-171 • Comparing Strategies • Which Is Easier?	“Fixed Areas” p. 311 TS-CM “Area of a Parallelogram” p. 313 TS-CM p. 313 “Area of a Triangle” p. 314 TS-CM 6-8 Kahn Academy: Area and Perimeter (online interactive)

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SS7.3 Demonstrate an understanding of 2-D relationships involving lines and angles.	Reason Geometrically KU3: • There are special words, phrases, and symbols that help us to think about and describe the shape and structure of things. Reason Geometrically KU4: • People have developed useful ways to classify shapes. Knowing that a shape is one of the standard types can tell us a lot about it. Direct Measure KU1: • We can directly compare objects or events to say which has more length, mass, capacity, area, volume, angle, or time. Direct Measure KU4: • Calibrated scales can be used as a substitute for repeating units when measuring length, capacity, mass, angle, and time.		Geometry and Space, 204-206 • Computer Graphics • Guess My Shape 1 • Lines and Planes • Glossary • Chart of Words • Straw Shapes • Geometric Symbols Geometry and Space, 217-219 • Quadrilaterals • Geoboard • Shape Clues • Sorting Triangles Measurement Book <i>One</i>, 119-120 • Book Corners • Ordering Angles Measurement Book <i>One</i>, 149 • Angles	“Can You Make It?” p. 269 TS-CM 6-8 “Diagonal Designations” p. 276 TS-CM 6-8 Race Around the World: An Angles Game (link to instructions) Table Top Angles (link to instructions) Prodigi: Construct Bisectors and Other Lines (online interactive) Classifying Angles Jeopardy (online interactive) Reasoning With Angle Measures: Task Cards (printable) Disneyland Geometry (printable) Angle Bisector Picture (link to instructions) Pool Geometry (online interactive)

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SS7.4 Demonstrate an understanding of the Cartesian plane and ordered pairs with integral coordinates.	Represent Location KU1: • We describe where things are in relation to other things. There are special words, phrases, and symbols that help us with this. Reason Geometrically KU3: • There are special words, phrases, and symbols that help us to think about and describe the shape and structure of things.		Geometry and Space, 32-35 • Grid Picture • Battleships • Street Maps • Latitude and Longitude • Where in the World? Geometry and Space, 204-206 • Lines and Planes • Glossary • Chart of Words • Straw Shapes • Geometric Symbols	Cartesian Plane Fly Mapping (link to instructions and printables) Four Quadrants Graphing Characters Worksheets (link to printables) Coordinate Plane Four/Five-in-a-Row (printable) Diamond Mine (online interactive) Interactive Sites for Coordinate Planes (link)

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SS7.5 Expand and demonstrate an understanding of transformations (translations, rotations, and reflections) of 2-D shapes in all four quadrants of the Cartesian plane.	Represent Transformation KU1: • We can imagine how a thing will look after we move all or part of it or change our view of it. Represent Transformation KU2: • We can move things around in space by reflecting, translating, and rotating. These do not change size or shape. Represent Transformation KU4: • Symmetrical things have component parts which can be matched by rotating, reflecting, or translating.		Geometry and Space, 127-128 • Reflection • Paper Folding 1, 2 • Snowflakes • Template Geometry and Space, 139-140 • Hexonimo Pairs • Border Pattern • Shape Shifter • Centre of Rotation • Using the Mira • Categorizing Transformations • Re-creating Border Patterns Geometry and Space, 162-163 • Border Patterns • Quadrilaterals • Logos and Crests • Card Designs • Graphics Programs • Venn Diagram • Rotational Designs • Word Art • Rotational Symmetry	Kahn Academy: Transformations (online interactive) Shape Mods (online interactive) Calculation Nation: Flip n' Slide (online interactive) Rotation Reflection Translation Game (link to instructions and printable) Entrapment (printable)