

Math DesCartes: Measurement

Skills: Formulas

Students:	DesCartes Skills: (Highlight the skills related to your chosen standard/concept)	
	RIT Above 260: <ul style="list-style-type: none"> • Solves complex problems comparing the areas of circles • Solves real-world problems involving surface area • Analyzes a problem solving situation to determine the surface area of a cylinder (customary) • Determines sine of an angle in a given right triangle • Determines cosine of an angle in a given right triangle • Determines tangent of an angle in a given triangle 	<ul style="list-style-type: none"> • Solves problems involving area of circle • Determines the diameter or radius when given the area of a circle (metric units) • Solves problems comparing areas of different polygons • Determines the area of irregular shapes (customary units) • Calculates the area of irregular shapes (metric units) • Solves complex problems involving inscribed figures • Uses dimensional analysis for unit conversions (area) • Determines the surface area of rectangular solids • Determines the surface area of a cylinder, given formula (customary units) • Calculates the length of one side of a cube, given the volume (customary units) • Determines the effects of changing dimensions on volume (no units) • Uses an indirect method to measure the height of an inaccessible object
	RIT 251-260: <ul style="list-style-type: none"> • Determines the area of a figure when plotting ordered pairs without a grid • Determines the length of the side of a square, given the area • Determines the area of a parallelogram, given a labeled diagram • Calculate the height of a trapezoid, given the area, without the formula given (metric) • Determines the diameter or radius when given the area of a circle (metric units) • Solves problems involving complex figures (e.g., triangle, parallelogram) • Solves complex problems involving inscribed figures • Solves problems comparing area to perimeter (analysis) • Solves real-world problems involving surface area • Determines the surface area of a pyramid (customary units) • Calculates the length of one side of a cube, given the volume (customary units) • Determines the volume of a cylinder • Calculates the radius of a sphere, given the volume and formula (metric units) • Solves real-world problems comparing volumes of figures 	RIT 231-240: <ul style="list-style-type: none"> • Solves problems involving the perimeter of irregular or complex shapes • Solves perimeter problems comparing width and length • Describes the change in perimeter when dimensions of an object are altered • Identifies the formula for perimeter with a variable • Determines the circumference when given diameter or radius (or vice versa) • Determines the circumference when given the area of a circle (or vice versa) • Identifies the formula for circumference of a circle • Knows the relationship between radius, diameter, and circumference • Compares area of numerous triangles • Determines the area of a triangle drawn on a grid • Determines the area of a triangle, given the formula • Calculates the area of a rectangle, given labeled sides (customary units) • Determines the length or width of a rectangle, given the area (metric units) • Determines area, length, or width, given the formula with variables • Describes the change in area of a rectangle when dimensions of an object are altered • Solves simple problems involving the area of a square or rectangle • Calculates the base or height of a parallelogram, given the area and formula (metric) • Determines the area of a trapezoid, given the formula (metric units) • Solves problems comparing areas of different polygons • Identifies the formula for area of circle • Understands the procedure for finding the area and surface area of figures • Calculates the volume of rectangular solids
	RIT 241-250: <ul style="list-style-type: none"> • Solves problems involving the perimeter of squares, rectangles, or triangles (analysis) • Determines the perimeter of a figure when plotting ordered pairs • Solves perimeter problems comparing width and length • Determines the circumference when given diameter or radius (or vice versa) • Determines the circumference when given the area of a circle (or vice versa) • Determines the area of a triangle without the formula • Solves problems involving area of a rectangle and converts to larger or smaller units (customary) • Describes the change in area of a rectangle when dimensions of an object are altered • Determines the area of a parallelogram, given a labeled diagram 	

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	<ul style="list-style-type: none"> • Calculates the length, width, or height of a rectangular prism, given the area (customary units) • Calculates the volume of a rectangular prism, and converts to a different measurement scale (customary units) • Uses the appropriate unit of measure for volume • Uses basic indirect methods to estimate measurements 		and perimeter (customary units) <ul style="list-style-type: none"> • Counts squares to determine surface area of a cube • Estimates and finds volume of a figure using cubic units
	<p>RIT 221-230:</p> <ul style="list-style-type: none"> • Solves problems involving the perimeter of squares, rectangles, or triangles • Finds the perimeter using the formula with a variable • Solves problems involving the perimeter of irregular or complex shapes • Solves problems involving perimeter and converts to larger or smaller units • Determines the diameter, given the radius, and vice versa • Defines pi and knows common estimates (3.14 and 22/7) • Describes the change in area of a triangle when 1 dimension of an object is altered (metric units) • Calculates the area of a rectangle, given labeled sides (customary units) • Determines the length or width of a rectangle, given the area (metric units) • Uses models to develop the relationship between the total number of square units contained in a rectangle and the length and width of the figure • Solves simple problems involving the area of a square or rectangle • Calculates the base or height of a parallelogram, given the area and formula (metric) • Determines the area of a trapezoid, given the formula (metric units) • Calculates area and perimeter of a rectangle (customary units) • Uses appropriate unit of measure for area • Calculates volume of rectangular solids • Calculates the volume of a rectangular prism, and converts to a different measurement scale (customary units) • Uses the appropriate unit of measure for volume 		<p>RIT 201-210:</p> <ul style="list-style-type: none"> • Determines the perimeter of a figure where some sides are labeled • Describes the change in area of a triangle when 1-dimension of an object is altered (metric units) • Estimates the area of rectangles using square units • Determines the area of irregular shapes with partial square units • Solves simple problems comparing area and perimeter (customary units) • Identifies situations where it is appropriate to calculate area • Estimates and finds volume of a figure using cubic units • Uses basic indirect methods to estimate measurements (grids for area of irregular figures)
	<p>RIT 211-220:</p> <ul style="list-style-type: none"> • Determines the perimeter of a figure using non-standard units • Solves problems involving the perimeter of squares, rectangles, or triangles • Finds the perimeter of a polygon using a formula • Determines the process for calculating perimeter • Determines the diameter, given the radius, and vice versa • Describes the change in area of a triangle when 1-dimension of an object is altered (metric units) • Determines the area of irregular shapes with partial square units • Solves simple problems comparing area 		<p>RIT 191-200:</p> <ul style="list-style-type: none"> • Determines the perimeter of a figure where all sides are labeled • Determines the perimeter of a figure where some sides are labeled • Solves simple problems involving the perimeter of squares, rectangles, or triangles • Estimates the area of rectangles using square units
			<p>RIT 181-190:</p> <ul style="list-style-type: none"> • Determines the perimeter of a figure where all sides are labeled • Compares squares (larger, smaller) • Determines the area of irregular shapes by counting square units
			<p>RIT 171-180:</p> <ul style="list-style-type: none"> • Determines the area of irregular shapes by counting square units

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Lesson Title:

Standard/Concept for All:

Introduction: (Get Attention; Connect to Prior Knowledge)

For Students Ready for a Challenge:

Lesson/Activity:

Resources:

Means of Assessment:

For Most Students:

Lesson/Activity:

Resources:

Means of Assessment:

For Students Needing Extra Support:

Lesson/Activity:

Resources:

Means of Assessment:

Closure/Summary for All: