Bellarmine Geometry Proficiency Exam Content

The Bellarmine Geometry Proficiency Exam is in alignment with the Geometry curriculum of the Common Core and includes questions that pertain to the topics listed below. The Geometry Exam is based on the ALEKS High School Geometry course. For additional content information please go to www.aleks.com.

1. Arithmetic and Algebra
    a. Linear Equations
    b. Linear Inequalities
    c. Solving Rational Equations
    d. Solving Quadratic Equations
    e. Simplifying Exponential Expressions
    f. Simplifying Radical Expressions
2. Deductive Reasoning
    a. Interpreting Venn Diagrams
    b. Conditional Statements and Negations
    c. Converse, Inverse, and Contrapositive
    d. Conditional Statements and Deductive Reasoning
3. Segments
    a. Segments, Rays, and Lines
    b. Distance on the Number Line
    c. Midpoint of a Segment
    d. Proofs Involving Segment Congruence
4. Lines
    a. Constructing the Perpendicular Bisector of a Line Segment
    b. Constructing Parallel and Perpendicular Lines
    c. Proofs Involving Parallel Lines
5. Angles
    a. Measuring and Drawing an Angle with a Protractor
    b. Acute, Obtuse, and Right Angles
    c. Supplementary and Complementary Angles
    d. Corresponding and Alternate Angles
    e. Vertical Angles and Linear Pairs
    f. Angles and Parallel Lines
    g. Constructing Congruent Angles
    h. Constructing an Angle Bisector
    i. Angle Addition
    j. Proofs Involving Angle Congruence
6. Triangles
    a. Identifying Congruent Triangles
    b. Proofs of Congruent Triangles
    c. Pythagorean Theorem
    d. Special Right Triangles
    e. Circles Inscribed in and Circumscribed about Regular Polygons
    f. Sine Cosine, Tangent
    g. Using Sine, Cosine, Tangent to find a side length or an angle measure

7. Polygons
    a. Classifying Quadrilaterals
    b. Properties of Parallelograms
    c. Properties of Rectangles
    d. Properties of Rhombi
    e. Sum of Interior Angle Measures in a Convex Polygon
    f. Interior and Exterior Angle Measures in a Regular Polygon
    g. Perimeters and Areas of Polygons
    h. Sides of Polygons Having the Same Perimeter
    i. Area of a Parallelogram
    j. Area of a Trapezoid
    k. Area of a Regular Polygon
8. Circles
    a. Diameter, Radius, Chord
    b. Central Angles, Inscribed Angles, Arcs, Chords, Tangents of a Circle
    c. Circumference and Area of Circles
    d. Arc Length and Area of a Sector of a Circle
    e. Area between Two Concentric Circles
9. Similarities and Transformations
    a. Identifying Congruent Shapes on a Grid
    b. Similar Polygons
    c. Identifying Transformations
    d. Translation of a Polygon
    e. Drawing Lines of Symmetry
    f. Rotation of a Figure about the Origin
10. Volumes and Surface Area
    a. Volume & Surface Area of a Solid Made of Cubes
    b. Volume & Surface Area of a Rectangular Prism, Triangular Prism
    c. Volume & Surface Area of a Cube, Pyramid, Cylinder, Cone, Sphere
    d. Rate of Filling of a Solid
11. Coordinate Geometry
    a. Plotting a Point in the Coordinate Plane
    b. Midpoint of a Line Segment in the Plane
    c. Distance between Two Points in the Plane
    d. Finding Coordinates of Vertices of Polygons
    e. Graphing Lines in the Coordinate Plane
    f. Parallel and Perpendicular Lines in the Coordinate Plane
12. Data Analysis
    a. Interpreting a Linear Model
    b. Analyzing Data Sets: Mean, Median, Mode
    c. Scatterplots and line of best fit
    d. Calculating and interpreting residuals
    e. Predictions from line of best fit
    f. Probabilities of dependent and independent events
    g. Probabilities of the union of two events