Iowa Essential Elements for Mathematics

Eighth Grade

The Number System 8.NS

A. Supporting Cluster: Work with numbers that are not rational and approximate them by rational numbers. 8.NS.A

1 Subtract fractions with like denominators (halves, thirds, fourths, and tenths) with minuends less than or equal to one. EE.8.NS.1

2.a Express a fraction with a denominator of 100 as a decimal. EE.8.NS.2.A

2.b Compare quantities represented as decimals in real-world examples to hundredths. EE.8.NS.2.B

Expressions and Equations 8.EE

A. Major Cluster: Work with radicals and integer exponents. 8.EE.A

1 Identify the meaning of an exponent (limited to exponents of 2 and 3). EE.8.EE.1

2 Identify a geometric sequence of whole numbers with a whole number common ratio. EE.8.EE.2

3 Compose and decompose whole numbers up to 999. EE.8.EE.3-4

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B. Major Cluster: Understand the connections between proportional relationships, lines, and linear equations. 8.EE.B

5 Graph a simple ratio by connecting the origin to a point representing the ratio in the form of y/x. EE.8.EE.5-6

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C. Major Cluster: Analyze and solve linear equations and pairs of simultaneous linear equations. 8.EE.C

7 Solve simple algebraic equations with one variable using addition and subtraction. EE.8.EE.7

Functions 8.F

A. Major Cluster: Define, evaluate, and compare functions. 8.F.A

1 Given a function table containing at least 2 complete ordered pairs, identify a missing number that completes another ordered pair (limited to linear functions). EE.8.F.1-3

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B. Major Cluster: Use functions to model relationships between quantities. 8.F.B

4 Determine the values or rule of a function using a graph or a table. EE.8.F.4

5 Describe how a graph represents a relationship between two quantities. EE.8.F.5

Geometry 8.G

A. Major Cluster: Demonstrate congruence and similarity using physical models, patty paper, or geometry software. 8.G.A

1 Recognize translations, rotations, and reflections of shapes. EE.8.G.1

2 Identify shapes that are congruent. EE.8.G.2

4 Identify similar shapes with and without rotation. EE.8.G.4

5 Compare any angle to a right angle, and describe the angle as greater than, less than, or congruent to a right angle. EE.8.G.5

C. Additional Cluster: Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres. 8.G.C

9 Use the formulas for perimeter, area, and volume to solve real-world and mathematical problems (limited to perimeter and area of rectangles and volume of rectangular prisms). EE.8.G.9

Statistics and Probability 8.SP

A. Supporting Cluster: Investigate patterns of association in bivariate data. 8.SP.A

4 Construct a graph or table from given categorical data, and compare data categorized in the graph or table. EE.8.SP.4