Iowa Essential Elements for Mathematics

Algebra

Number and Quantity A.N

N-RN. The Real Number System A1.N-RN

A. Major Cluster: Extend the properties of exponents to rational exponents. A2.N-RN.A

1 Determine the value of a quantity that is squared or cubed. EE.N-RN.1

N-CN. The Complex Number System A2.N-CN

A. Additional Cluster: Perform arithmetic operations with complex numbers. A2.N-CN.A

2.a Use the commutative, associative, and distributive properties to add, subtract, and multiply whole numbers. EE.N-CN.2.A

2.b Solve real-world problems involving addition and subtraction of decimals, using models when needed. EE.N-CN.2.B

2.c Solve real-world problems involving multiplication of decimals and whole numbers, using models when needed. EE.N-CN.2.C

N-Q. Quantities A1.N-Q

A. Supporting Cluster: Reason quantitatively and use units to solve problems. A1.N-Q.A

1 Express quantities to the appropriate precision of measurement. EE.N-Q.1-3

2 Express quantities to the appropriate precision of measurement. EE.N-Q.1-3

3 Express quantities to the appropriate precision of measurement. EE.N-Q.1-3

Algebra A1.A

A-SSE. Seeing Structure in Expressions A1.A-SSE

A. Major Cluster: Interpret the structure of expressions. A1.A-SSE.A

1 Identify an algebraic expression involving one arithmetic operation to represent a real-world problem. EE.A-SSE.1

B. Supporting Cluster: Write expressions and equations in equivalent forms to solve problems. A1.A-SSE.B

3 Solve simple algebraic equations with one variable using multiplication and division. EE.A-SSE.3

4 Determine the successive term in a geometric sequence given the common ratio. EE.A-SSE.4

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ED. Creating Equations A1.A-CED

A. Major Cluster: Create equations that describe numbers or relationships. A1.A-CED.A

1 Create an equation involving one operation with one variable and use it to solve a real-world problem. EE.A-CED.1

2 Solve one-step inequalities. EE.A-CED.2-4

3 Solve one-step inequalities. EE.A-CED.2-4

4 Solve one-step inequalities. EE.A-CED.2-4

A-REI. Reasoning with Equations and Inequalities A1.A-REI

D. Major Cluster: Represent and solve equations and inequalities graphically. A1.A-REI.D

10 Interpret the meaning of a point on the graph of a line. EE.A-REI.10-12

11 Interpret the meaning of a point on the graph of a line. EE.A-REI.10-12

12 Interpret the meaning of a point on the graph of a line. EE.A-REI.10-12

Functions A1.F

F-IF. Interpreting Functions A1.F-IF

A. Major Cluster: Understand the concept of a function and use function notation. A1.F-IF.A

1 Use the concept of function to solve problems. EE.F-IF.1-3

2 Use the concept of function to solve problems. EE.F-IF.1-3

3 Use the concept of function to solve problems. EE.F-IF.1-3

B. Major Cluster: Interpret functions that arise in applications in terms of the context. A1.F-IF.B

4 Construct graphs that represent linear functions with different rates of change and interpret which is faster/slower, higher/lower, etc. EE.F-IF.4-6

F-BF. Building Functions A1.F-BF

A. Supporting Cluster: Build a function that models a relationship between two quantities. A1.F-BF.A

1 Select the appropriate graphical representation (first quadrant) given a situation involving constant rate of change. EE.F-BF.1

2 Determine an arithmetic sequence with whole numbers when provided a recursive rule. EE.F-BF.2

F-LE. Linear, Quadratic, and Exponential Models A1.F-LE

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A. Supporting Cluster: Construct and compare linear, quadratic, and exponential models and solve problems. A1.F-LE.A

1 Model a simple linear function such as y = mx to show that these functions increase by equal amounts over equal intervals. EE.F-LE.1-3

2 Model a simple linear function such as y = mx to show that these functions increase by equal amounts over equal intervals. EE.F-LE.1-3

3 Model a simple linear function such as y = mx to show that these functions increase by equal amounts over equal intervals. EE.F-LE.1-3

Statistics and Probability A1.S

S-ID. Interpreting Categorical and Quantitative Data A1.S-ID

A. Additional Cluster: Summarize, represent, and interpret data on a single count or measurement variable. A1.S-ID.A

1 Given data, construct a simple graph (line, pie, bar, or picture) or table, and interpret the data. EE.S-ID.1-2

2 Given data, construct a simple graph (line, pie, bar, or picture) or table, and interpret the data. EE.S-ID.1-2

3 Interpret general trends on a graph or chart. EE.S-ID.3

4 Calculate the mean of a given data set (limit the number of data points to fewer than five). EE.S-ID.4

S-IC. Making Inferences and Justifying Conclusions A2.S-IC

A. Supporting Cluster: Understand and evaluate random processes underlying statistical experiments. A2.S-IC.A

1 Determine the likelihood of an event occurring when the outcomes are equally likely to occur. EE.S-IC.1-2

2 Determine the likelihood of an event occurring when the outcomes are equally likely to occur. EE.S-IC.1-2