Kentucky Algebra 1 Standards to CORD Algebra 1, 2nd Edition

Algebra I

This chart lists the concepts in an Algebra I course. High school mathematics programs are grounded in Academic Expectations 1.5 to 1.9, Mathematical Communication and Reasoning; 1.16, Technology; 2.7, Number Concepts; 2.8, Mathematical Procedures; 2.9, Space and Dimensionality; 2.10, Measurement; 2.11, Change; 2.12, Mathematical Structure; 2.13, Probability and Statistics; Goal 5, Think and Solve Problems; and Goal 6, Connect and Integrate Knowledge. The four processes below should be woven throughout the Algebra I class.

Linear Equations, Inequalities, and Functions

M-H-A-1

Students will solve one-variable equations using manipulatives, symbols, procedures, and graphing.

Pages or Location: 146-154, 155-160, 161-168, 169-174, 175-179, 180-184, 185-186, 186-188, 188-189, 190-203, 212, 217, 224, 248, 254, 259, 267, 295, 303, 425, 563, 574, 599, 632, 716

M-H-A-2

Students will solve two-variable linear equations using real numbers, real number operations, field properties, and order of operations.

Pages or Location: 442-448, 449-455456-462,, 463-469, 470-475, 476-477, 477-479, 481-493, 531

M-H-A-3

Students will write and solve linear sentences, describing real-world situations by using and relating formulas, tables, graphs, and equations.

Pages or Location: 85-92, 93-96, 97-102, 103-106, 107-113, 128-143, 146-154, 155-160, 161-168, 169-174, 174-179, 180-184, 190-203, 442-448, 449-455, 456-462, 463-469, 470-475, 481-493, 501-505, 506-511, 512-518, 519-522, 523-531, 532-536, 544-555, 580, 592, 600, 625, 632, 644, 698

M-H-A-4

Students will use characteristics of the graphs of linear functions, such as slope and intercepts, transformations.

Pages or Location: 218-224, 225-233, 234-240, 241-248, 249-254, 255-259, 262-264, 265-277, 282, 298, 303, 311, 327, 373, 403, 410, , 414, 442-448, 449-455, 462, 476-477, 477-479, 481-493, 500, 511, 523-531, 625, 632

M-H-A-5

Students will collect, organize, and display two-variable data, and use a line of best fit as a model to predict.

Pages or Location: 404-410, 432, 437, 439, 518

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M-H-A-6

Students will connect the skills to solve linear equations to solve linear inequalities.

Pages or Location: 496-500, 501-505, 506-511, 512-518, 519-522, 523-531, 532-536, 537-538, 538-540, 544-555, 574, 580, 625, 687

M-H-A-7

Students will write and solve linear inequalities.

Pages or Location: 496-500, 501-505, 506-511, 512-518, 519-522, 523-531, 532-536, 537-538, 538-540, 544-555, 574, 580, 625, 687

Non-Linear Functions: Quadratic, Exponential, and Absolute Value

M-H-A-8

Students will use the skills learned to solve linear equations and inequalities to solve numerically, graphically, or symbolically non-linear equations such as quadratic and exponential equations.

Pages or Location: 296-303, 304-311, 312-319, 323-338, 620-625, 626-632, 633-637, 638-644, 645-648, 649-656, 660-662, 664-677, 708, 717-721, 730-732

M-H-A-9

Students will collect, organize, and display two-variable data, and use a curve of best fit as a model to make predictions.

Pages or Location: 404-410, 432, 437, 439, 518, 657-660, 662-663, 677

M-H-A-10

Students will extend ideas of transformations of linear equations, such as vertical and horizontal shifts, to transformations of nonlinear equations.

Pages or Location: 256-259, 274, 296-303, 315-316, 318, 348, 620-624, 698

Proportional Reasoning

M-H-A-11

Students will write and solve proportion sentences.

Pages or Location: 125-127, 143, 155-160, 196, 224, 248, 254, 286, 303, 484, 580, 583-584, 592, 632, 675, 680-687, 699-708, 709-716, 722-725, 728-741

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M-H-A-12

Students will use proportional reasoning (ratios and proportions) to solve real-world problems.

Pages or Location: 125-127, 143, 155-160, 196, 224, 248, 254, 286, 303, 484, 580, 583-584, 592, 632, 675, 680-687, 699-708, 709-716, 722-725, 728-741

M-H-A-13

Students will solve problems that have direct or inverse relationships for any variable.

Pages or Location: 291-295, 330, 332, 333, 335, 338

Sequences

M-H-A-14

Students will see the patterns in arithmetic sequences and geometric sequences using recursion (formulas expressing each term as a function of one or more of the previous terms).

Pages or Location: 9-12, 85, 241-248, 280-286, 320-322, 373, 404-410, 611

M-H-A-15

Students will see patterns in other sequences (e.g., quadratic, cubic).

Pages or Location: 291-295, 296-303, 304-311, 320-322, 323-329, 611, 620-625, 626-632, 640-642, 662-663

M-H-A-16

Students will relate the patterns in arithmetic sequences to linear equations.

Pages or Location: 241-248, 256-259, 280-286, 291-295, 320-322, 323-329, 373, 404-410

M-H-A-17

Students will relate the patterns in geometric sequences to exponential equations (e.g., squared, cubed, nth power).

Pages or Location: 312-319

Probability

M-H-A-18

Students will use strategies such as combinations and permutations (arrangements) to count discrete quantities (the study of mathematical properties of sets and systems that have a countable number of elements).

Pages or Location: 342-348, 356-361, 362-367, 368-373, 375-376, 378-387

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M-H-A-19

Students will design and conduct probability simulations, and interpret the results.

Pages or Location: 349-355, 374-375, 375-376, 378-387