

Math Content Standards Resources

Content Area: Math and Number Sense

| Standard Statement | SV Basic Essentials of Math | SV GED Math | SV Building Strategies | Contemp. Math Satellite | Contemp. Math Exercise SV Math Exercise | Contemp. Number Power | NR Press Pass the Math Scoreboost | Top 50 Math Skills | GED Math Problem Solver M. Manly |
|---|--|------------------|--|--|---|--|--|----------------------------|----------------------------------|
| 1. The learner will demonstrate fluency with basic operations using: a) Calculator b) Mental Math c) Pencil and paper | Book 1: 5 8-34 37-38 81-86 88-89 99-106 112 | 48-51 126-127 | 18-19 27-42 48-49 53-64 68-69 72-73 84-93 106-107 120-127 130-133 140-141 142-144 | 20-24 28-29 82-94 115-124 | 90-94 | Book 4: 194 Book 5: 190-191 Book 7: 8-21 | 8-11 Whole #, Dec, Frac, % 12-15 24-25 32-33 Meas & Data Analysis 6-7 32-33 Algebra & Geometry 4-5 16-17 | Les. 3 Les. 4 Les. 5 | Les. 1 Les. 7 |
| 2. The learner will select and apply correct operations or procedures to solve a practical problem. This will include simple and multi-step problems. Procedures will include: a) Identifying relevant information b) Determining whether or not there is sufficient information to solve a problem | Book 1: 18-19 38 | 38-39 52-55 | 20-21 46-47 50-52 70-71 74-76 108-110 | 51-66 72-74 95-102 129-132 133-136 | 8-15 | Book 7: 24-25 36-54 55-80 81-116 117-143 144-154 | 4-5 14-15 18-19 22-23 Whole #, Dec, Frac, % 4-5 | | |
| 3. The learner will use estimation as a strategy to solve a problem and to check the reasonableness of the results. | Book 1: 7 36 80 87 99 | 35-37 | 66-67 | 24-28 60-63 81-82 | 6 | Book 4: 195 Book 5: 192-193 Book 7: 22-23 | Whole #, Dec, Frac, % 6-7 22-23 | Les. 1 | Les. 6 |
| 4. The learner will apply the concept of place value in a practical context. | Book 1: 6-7 76 | 34-35 104-107 | 10-17 22-26 78-80 82-83 | 17-18 75-76 | 5 | | | Les. 2 Les. 6 | Les. 13 |

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|--|---|--|------------------------------------|-------------------------------|---|-----------------------|---|--------------------|---|
| 5. The learner will determine equivalent relationships between fractions, decimals, and percents and convert between forms. | Book 1: 42-43 77 79 97-98 111 Book 2: 6-11 | 70-77 120-123 132-135 | 94-95 134 138-139 140-141 | 103-114 124-127 149-155 | 19-27 | | Whole #, Dec, Frac, % 20-21 30-31 34-35 | Les. 9 | Les. 15 Les. 16 Les. 17 |
| 6. The learner will solve practical problems using: a) Rational numbers b) Percentages | Book 2: 5-14 106 | 116-117 | 96-97 100-101 139- | 156-165 167-171 | Percents 26-27 | | 29 35 | Les. 10 Les. 18 | Les. 9 Les. 10 Les. 22 Les. 23 |
| 7. The learner will set up and solve a variety of problems involving rates . <i>Refer to formula sheet.</i> | Book 2: 15-16 18-29 107 | 138-141 144-149 150-160 | | 172-178 | Percents 60 | | 16-17 | Les. 17 | |
| 8. The learner will set up a ratio to represent a comparison using the following notations: a) a/b b) a:b c) a to b | Book 2: 88-90 | 82-83 | 135-136 | 137-139 | 28-29 | | 29 | Les. 11 | Les. 20 |
| 9. The learner will solve a variety of practical problems by using proportions . Problems may include: a) Scale drawings b) Maps c) Percentages | Book 2: 42 93-99 104 112 | 84-85 136-137 | 137 140-141 | 140-148 165-166 | 29 | | 29 Whole #, Dec, Frac, % 26-27 Algebra & Geometry 22-23 | Les. 12 Les. 20 | Les. 20 Les. 21 Les. 22 |
| 10. The learner will compare and order whole numbers, fractions, decimals, and integers (signed numbers) as they relate to the number line. | Book 1: 40-44 78 | 40-41 110-111 210-211 218-219 | 16-17 81 112-119 | 281-282 | | Book 3: 10-17 | 29 | Les. 7 | Les. 2 Les. 5 |

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|--|---|--|------------------------|---------------------------|---|-----------------------|--|--------------------|----------------------------------|
| 11. The learner will solve practical problems involving basic operations with integers. | Book1: 18-19 38 101 Book 2: 84 | 42-47 210-213 218-219 | | 283-292 | | Book 3: 18-23 | 36 | | Les. 7 |
| 12. The learner will evaluate expressions using the order of operations . | Book 2: 76-77 | 58-67 212-213 | 43 65 | 39-45 | 16 | | 34 36 | Les. 4 | Les. 10 |
| 13. The learner will evaluate numerical expressions which may contain: a) Exponents b) Roots | Book 2: 100-102 | 234-237 | | 32-36 | Algebra | Book 3: 24-37 | 34 36 | Les. 4 | Les. 11 Les. 13 |
| 14. The learner will use a variety of problem-solving and test-taking strategies, such as: a) Working backwards b) Guess and check c) Substituting simpler numbers d) Recognizing patterns e) Estimating f) Evaluating reasonableness of answers | Book 1: 7 16 | 142-143 238 240 | 44-45 104-105 | | | Book 7: 22-23 | 4-5 Whole #, Dec, Frac, % 2-3 8-9 Algebra & Geometry 6-7 | | Les. 6 Les. 14 Les. 19 |
| 15. The learner will provide answers in various formats, including: a) Multiple choice b) Standard grid c) Coordinate plane grid | | 56-57 86-87 98-99 118-119 124-125 252-253 | | 45-50 72-74 133-136 | Algebra 95-97 | | 10-13 Whole #, Dec, Frac, % 16-17 28-29 Meas & Data Analysis 16-17 34-35 | All | End of each lesson |

Math Content Standards Resources

Content Area: Algebra, Functions, and Patterns

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|---|--|-------------------------------|------------------|-----------------------------|---|---------------------------|---|--|--------------------------------------|
| 1. The learner will analyze and represent a situation involving variable quantities with an expression or equation . | Book 2: 61-65 75 | 214-215 224-225 | 7.1 | 69-71 306-309 310-316 | Algebra 51 | Book 3: 38-51 | 36 Algebra & Geometry 8-9 | Les. 42 Les. 44 Les. 46 Les. 47 | Les. 1 Les. 3 Les. 7 Les. 9 |
| 2. The learner will analyze a set of data for the existence of a pattern . Data may appear as: a) Tabular b) Symbolic c) Graphical d) Verbal e) Physical representations | Book 1: 58 Book 2: 67-69 110 | 192-201 | 1.4 | 36-38 | Data Analysis | | 36 Algebra & Geometry 2-3 | Les. 45 | Les. 2 |
| 3. The learner will substitute numbers for the variables in an expression and evaluate, including familiar and unfamiliar formulas. <i>Refer to the formula sheet.</i> | Book 2: 62-65 109 | 214-215 228 284 | 7.1 | 67-68 302-303 | Algebra 54 | | 18-19 30 Algebra & Geometry 10-11 | Les. 43 | Les. 9 |
| 4. The learner will perform basic operations to simplify expressions containing variables. The expressions may contain: a) Exponents b) Roots | Book 2: 78 100-102 | 214-217 234-237 242-243 | | 292-294 | Algebra 52-53 55 | | 19 | Les. 41 | Les. 11 |
| 5. The learner will solve: a) Multi-step linear equations and inequalities in one variable b) Literal equations (formulas) for a given variable | Book 2: 79-84 111 | 220-223 226-227 248-249 | 7.2 7.3 | 294-302 304-306 | Algebra 56-57 62 | Book 3: 52-85 92-99 | 34 | Les. 48 | |
| 6. The learner will find square roots by: a) Recognizing perfect squares b) Approximating the square root of any whole number less than 200 c) Using the scientific calculator | Book 2: 100-102 | 236-237 | | 341-342 | | Book 4: 62-63 | | | Les. 11 |
| 7. The learner will convert between different representations of a function including: a) A table of values b) An equation c) A graph d) A verbal description | Book 2: 67-69 | 240 318 | | 329-331 | Algebra 66 | | | Les. 49 | |

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|--|-----------------------------|-------------------------------|------------------|-------------------------|---|-----------------------|-----------------------------------|--------------------|----------------------------------|
| 8. The learner will calculate the slope of a line when given: a) The coordinates of two points on the line b) The equation of the line c) The graph of the line | Book 2: 85-86 | 250-251 254-257 260-261 | 7.4 | 331-335 | Algebra 67-68 | | 30 Algebra & Geometry 30-31 | | Les. 24 |
| 9. The learner will recognize the general shape of a function and relate it to a data set. Functions will include: a) Linear b) Quadratic c) Exponential | | 240-241 318 | | 329-331 346-350 | Data Analysis 64 | | | | |

Content Area: Data Analysis, Probability, and Statistics

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|---|-----------------------------|----------------|-----------------------------|-------------------------|---|---|--|---|----------------------------------|
| 1. The learner will solve problems involving the measures of central tendency: a) Mean b) Median c) Mode d) Range <i>Refer to the formula sheet.</i> | Book 1: 35 | 184-185 | | 30-32 217-219 | Data Analysis 33 | Book 8: 54-58 | 20-12 30 37 Meas & Data Analysis 28-29 | Les. 29 Les. 30 | Les. 10 |
| 2. The learner will predict the effect of changing the data set on the measures of central tendency. | Book 1: 35 | 190-191 | | | | Book 8: 8-12 | 30 | | |
| 3. The learner will analyze data to identify trends . This will include making comparisons , predictions , and inferences using information displayed in: a) Tables b) Frequency distributions c) Scatter plots d) Line, bar, circle, and picture graphs | Book 2: 67-69 | 194-201 | 98-99 102-103 128-129 | 197-211 220-222 | Data Analysis 38-45 | Book 5: 12-69 Book 8: 28-53 62-72 | 6-7 20-21 Meas & Data Analysis 20-27 | Les. 33 Les. 34 Les. 35 Les. 36 Les. 37 | |
| 4. The learner will construct an appropriate representation of a given data set. Representations include: a) Tables b) Frequency distributions c) Scatter plots d) Line, bar, circle, and picture graphs | Book 2: 67-69 | 192-196 316 | | | | Book 5: 12-69 | | | |

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|--|-----------------------------|-------------|------------------------|-------------------------|---|--------------------------------|-------------------------------------|--------------------|----------------------------------|
| 5. The learner will interpret data presented in various forms and use the data to solve problems. This includes recognizing sampling errors and bias . | | | | 220-222 | 38-45 | Book 8: 99-123 | | Les. 38 | Les. 1 Les. 2 |
| 6. The learner will determine correlation and distinguish it from causation . | | | | | | | | | |
| 7. The learner will analyze a problem situation and determine the probability of an event occurring. This includes: a) Independent events b) Dependent events | Book 2: 90-92 112 | 186-189 | | 215-216 | Data Analysis 34-35 | Book 8: 92 | 32 Meas & Data Analysis 30-31 | Les. 39 | |
| 8. The learner will represent the probability of an event as a ratio or as a percentage between 0% and 100%. | Book 2: 90-92 | 186-189 | | 212-215 220-222 | 34-35 | Book 3: 86-91 Book 8: 93-98 | | Les. 40 | |
| 9. The learner will identify the number of possible combinations of several objects using: a) Tree diagram b) The fundamental basic counting principle | | | | | | | | | |

Content Area: Measurement and Geometry

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|---|-----------------------------|----------------|------------------|-------------------------|---|-----------------------|--------------------------------------|--------------------|----------------------------------|
| 1. The learner will read and interpret measuring devices. | | 286 | | 190-196 | | | | Les. 14 Les. 15 | |
| 2. The learner will convert measurements within a measurement system as part of solving a problem. a) U.S. customary system b) Metric system <i>The intent of this standard is for students to make ballpark comparisons and not to memorize conversion factors between U.S. customary and metric units.</i> | Book 2: 31-41 108 | 164-169 282 | 8.1 | 183-190 | Measurement | | 30-31 Meas & Data Analysis 2-7 | Les. 16 Les. 21 | |

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|--|------------------------------------|---|------------------|-------------------------|---|---|---|--------------------|----------------------------------|
| 3. The learner will apply the concepts of line and angle relationships to solve problems. This includes, but is not limited to, the concepts of: a) Parallelism b) Perpendicularity c) Complementary angles d) Supplementary angles e) Congruence f) Similarity of figures | Book 2: 47-48 | 274-275 286-288 290-292 302 304 | 8.2 | 223-231 263-270 | Geometry 76-78 | Book 4: 10-37 | 34 37 Algebra & Geometry 12-13 | Les. 22 Les. 23 | Les. 4 |
| 4. The learner will identify and use the properties of plane figures to solve practical problems. <i>Refer to the formula sheet for specific plane figures.</i> | Book 2: 43-45 47-60 72-73 | 274-277 298-302 | | 231-233 259-262 | Geometry 79-89 | Book 4: 73-123 Book 7: 169-185 | Meas & Data Analysis 8-9 Algebra & Geometry 14-15 | Les. 19 | |
| 5. The learner will determine if geometric figures are similar and write proportions to express the relationships between corresponding parts of similar figures. | Book 2: 96-98 | 274-282 306 | 8.3 | 263-267 | | | 34 | Les. 12 | Les. 21 Les. 22 |
| 6. The learner will determine if a problem situation involving geometric figures represents the application of : a) Perimeter b) Circumference c) Area d) Volume | Book 2: 43-46 50-60 72-73 | 176-183 274-281 308 | 8.4 | 276-280 | Geometry 79-82 | | Meas & Data Analysis 10-11 Algebra & Geometry 14-15 18-19 | | Les. 2 Les. 8 Les. 12 |
| 7. The learner will predict the effect of changing a linear dimension on: a) Perimeter b) Area c) Volume | Book 2: 46 49-60 71-73 | 274-281 | 8.4 | | | | | Les. 50 | Les. 2 Les. 8 Les. 10 |
| 8. The learner will use estimation to approximate solutions to problems involving: a) Perimeter b) Circumference c) Area d) Volume | Book 2: 46 48-60 72-73 | 274-282 | | | Geometry | | | Les. 25 Les. 26 | Les. 2 Les. 8 Les. 10 |

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|--|--|---------------------------|------------------|-------------------------|---|---|-----------------------------------|--------------------|----------------------------------|
| 9. The learner will solve problems involving: a) Perimeter b) Circumference c) Area d) Volume | Book 2: 43-46 50 53-60 72-73 | 170-183 274-282 310 | | 234-238 | Geometry 82 | Book 3: 108 Book 4: 88-89 110-145 | Meas & Data Analysis 10-15 | | Les. 2 Les. 8 Les. 10 |
| 10. The learner will identify and plot ordered pairs in the four quadrants of a coordinate plane . | Book 2: 85-86 | 250-251 | | 323-325 | 65 | Book 3: 100-101 | 32 Algebra & Geometry 26-29 | Les. 27 | Les. 5 |
| 11. The learner will transform a geometric figure represented on a coordinate plane by: a) Rotating b) Sliding c) Flipping d) Dilating | | | | | | | | | Les. 5 |
| 12. The learner will determine the y-intercept of a line when given: a) An equation of the line b) The graph of the line c) Two points on the line | Book 2: 85-86 | 260 | | 331-335 | Algebra | Book 3: 102-103 | | Les. 24 | |
| 13. The learner will solve problems using: a) Slope b) Y-intercept c) Point of intersection of two lines | | 256-257 260 | | 334-335 | Algebra | Book 3: 104-107 | | Les. 28 | Les. 24 |
| 14. The learner will use the distance formula to determine lengths. <i>Refer to the formula sheet.</i> | Book 2: 65 | 228 258-259 | | 326-328 | | | Algebra & Geometry 32-33 | | |
| 15. The learner will recognize when the Pythagorean relationship applies and use it to solve problems. <i>Refer to the formula sheet.</i> | Book 2: 51-52 | 312-314 | | 271-275 | Geometry | Book 4: 64-69 162-163 | 33 Algebra & Geometry 20-21 | Les. 24 | Les. 11 |