<table>
<thead>
<tr>
<th>Number and Quantity Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-RN-1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents.</td>
<td></td>
<td>INSTRUCTION: Skills Bank 781 Skills Bank Lesson(s) 6</td>
<td>INSTRUCTION: New Concept 420-424 Lesson(s) 59</td>
</tr>
<tr>
<td>N-RN-2. Rewrite expressions involving radicals and rational exponents using the properties of exponents.</td>
<td></td>
<td>INSTRUCTION: Skills Bank 781 Skills Bank Lesson(s) 6</td>
<td>INSTRUCTION: New Concept 420-424 Lesson(s) 59</td>
</tr>
<tr>
<td>N-RN-3. Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.</td>
<td>INSTRUCTION: New Concept 2-5, 24-25 Lesson(s) 1, 5</td>
<td></td>
<td>INSTRUCTION: New Concept 3 Lesson(s) 1</td>
</tr>
<tr>
<td>MAINTENANCE: Practice 10, 26, 90, 131, 137</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Number and Quantity Standards (+ = advanced; * = also a Modeling Standard)

- **N-Q-1.** Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.*

<table>
<thead>
<tr>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INSTRUCTION:</strong></td>
<td><strong>INSTRUCTION:</strong></td>
<td><strong>INSTRUCTION:</strong></td>
</tr>
<tr>
<td>Lesson(s) 8, 22, 27, 29, 31</td>
<td>Lesson(s) 8, 22, 40, 66, 70, 77, 80, 99, 110, 115</td>
<td>Lesson(s) 18, 26</td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong></td>
<td><strong>MAINTENANCE:</strong></td>
<td><strong>MAINTENANCE:</strong></td>
</tr>
<tr>
<td>Skills Bank Lesson(s) 8, 9, 21</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong></td>
<td><strong>MAINTENANCE:</strong></td>
<td><strong>MAINTENANCE:</strong></td>
</tr>
</tbody>
</table>

Page 2 of 81
<table>
<thead>
<tr>
<th>Number and Quantity Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-Q-2. Define appropriate quantities for the purpose of descriptive modeling.*</td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 36-39, 127-130, 159-161, 172-174, 190-193&lt;br&gt;Lesson(s) 8, 22, 27, 29, 31</td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 47-50, 138-141, 257-259, 437-439, 464-467, 506-508, 524-526, 642-644, 709-711, 736-739&lt;br&gt;Lesson(s) 8, 22, 40, 66, 70, 77, 80, 99, 110, 115</td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 124-126&lt;br&gt;Lesson(s) 18</td>
</tr>
</tbody>
</table>
### Number and Quantity Standards

<table>
<thead>
<tr>
<th>(+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-Q-3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.*</td>
<td></td>
<td>INSTRUCTION:</td>
<td>INSTRUCTION:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lesson(s) 8, 22, 40, 66, 70, 77, 80, 99, 110, 115</td>
<td>Lesson(s) 18, 118</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skills Bank 783, 784, 797</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skills Bank Lesson(s) 8, 9, 21</td>
<td></td>
</tr>
</tbody>
</table>

---

Page 4 of 81
<table>
<thead>
<tr>
<th>Number and Quantity Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| **N-CN-1.** Know there is a complex number *i* such that \(i^2 = -1\), and every complex number has the form \(a + bi\) with *a* and *b* real. | | | **INSTRUCTION:**
New Concept 442-444
Lesson(s) 62 |
| **MAINTENANCE:**
Practice 445, 446, 453, 460, 467, 474, 481, 486, 488, 493, 494, 499, 500, 511, 518, 532, 538, 539, 550, 556, 569, 620, 651, 682 |
| **N-CN-2.** Use the relation \(i^2 = -1\) and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers. | | | **INSTRUCTION:**
New Concept 442-444, 489-492
Lesson(s) 62, 69 |
| **MAINTENANCE:**
Practice 445, 446, 453, 460, 467, 474, 481, 486, 488, 493, 494, 499, 500, 511, 518, 532, 538, 539, 550, 556, 569, 620, 651, 682 |
| **N-CN-3.** (+) Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers. | | | **INSTRUCTION:**
New Concept 491, 741
Lesson(s) 69, 106 |
| **MAINTENANCE:**
Practice 493, 511 |
| **N-CN-4.** (+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number. | | | **INSTRUCTION:**
Investigation 11 770-773 |
| **MAINTENANCE:**
Practice 778 |
<table>
<thead>
<tr>
<th>Number and Quantity Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N-CN-5.</strong> (+) Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation.</td>
<td><strong>INSTRUCTION:</strong> Investigation 11 770-773</td>
<td><strong>MAINTENANCE:</strong> Practice 778, 829</td>
<td></td>
</tr>
<tr>
<td><strong>N-CN-6.</strong> (+) Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.</td>
<td><strong>INSTRUCTION:</strong> New Concepts 640-643 Lesson(s) 91</td>
<td><strong>MAINTENANCE:</strong> Practice 643, 644, 645, 649, 651, 656, 664, 670, 677, 683, 694, 702, 718, 724, 737, 743, 744, 750, 755, 762, 767, 8803, 812</td>
<td></td>
</tr>
<tr>
<td><strong>N-CN-7.</strong> Solve quadratic equations with real coefficients that have complex solutions.</td>
<td><strong>INSTRUCTION:</strong> New Concept 442-444 Lesson(s) 62</td>
<td><strong>MAINTENANCE:</strong> Practice 445, 446, 453, 460, 467, 474, 481, 486, 488, 493, 494, 499, 500, 511, 518, 532, 538, 539, 550, 556, 569, 620, 651, 656, 682</td>
<td></td>
</tr>
<tr>
<td><strong>N-CN-8.</strong> (+) Extend polynomial identities to the complex numbers.</td>
<td><strong>INSTRUCTION:</strong> New Concept 442-444 Lesson(s) 62</td>
<td><strong>MAINTENANCE:</strong> Practice 446, 486, 494, 499, 511, 539, 550, 620, 651, 682</td>
<td></td>
</tr>
<tr>
<td>Number and Quantity Standards (+ = advanced; * = also a Modeling Standard)</td>
<td>Saxon Algebra 1</td>
<td>Saxon Geometry</td>
<td>Saxon Algebra 2</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>N-CN-9. (+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.</td>
<td></td>
<td></td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 738-742&lt;br&gt;Lesson(s) 106</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>MAINTENANCE:</strong>&lt;br&gt;Practice 743, 744, 749, 756, 763, 767, 783, 785, 796, 802, 811, 812, 816, 822, 823, 828</td>
</tr>
<tr>
<td>N-VM-1. (+) Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., ( \mathbf{v} ),</td>
<td></td>
<td></td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 418-421, 543-545, 579-582&lt;br&gt;Lesson(s) 63, 83, 89</td>
</tr>
<tr>
<td>N-VM-2. (+) Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.</td>
<td></td>
<td></td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 692-693&lt;br&gt;Lesson(s) 99</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>MAINTENANCE:</strong>&lt;br&gt;Practice 730, 744, 751, 756, 777, 784, 792, 822</td>
</tr>
<tr>
<td>Number and Quantity Standards (+ = advanced; * = also a Modeling Standard)</td>
<td>Saxon Algebra 1</td>
<td>Saxon Geometry</td>
<td>Saxon Algebra 2</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>---------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>N-VM-3. (+) Solve problems involving velocity and other quantities that can be represented by vectors.</td>
<td>INSTRUCTION: New Concept 420-421, 545, 582 Lesson(s) 63, 83, 89</td>
<td>MAINTENANCE: Practice 421, 422, 423, 427, 4234, 440, 454, 461, 489, 503, 520, 546, 559, 584, 597, 599, 612, 615, 621, 633, 650, 659, 665, 683, 685, 708, 712, 730, 745, 753, 765, 771</td>
<td>INSTRUCTION: New Concept 693 Lesson(s) 99</td>
</tr>
</tbody>
</table>

N-VM-4. (+) Add and subtract vectors.  
a. Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes.  
b. Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum.  
c. Understand vector subtraction \( \mathbf{v} - \mathbf{w} \) as \( \mathbf{v} + (-\mathbf{w}) \), where \( -\mathbf{w} \) is the additive inverse of \( \mathbf{w} \), with the same magnitude as \( \mathbf{w} \) and pointing in the opposite direction. Represent vector subtraction graphically by connecting the tips in the appropriate order, and perform vector subtraction component-wise. | a) INSTRUCTION: New Concept 419-421, 543-545 Lesson(s) 63 | b) INSTRUCTION: New Concept 421, 422, 427, 435, 450, 476, 547, 550, 551, 552, 558, 563, 572, 584, 615, 745 | a) INSTRUCTION: New Concept 691, 693 Lesson(s) 99 |

<p>| MAINTENANCE: Practice 499, 639, 659, 707, 745 | MAINTENANCE: Practice 756 | MAINTENANCE: Practice 702, 717, 792 | MAINTENANCE: Practice 756 |</p>
<table>
<thead>
<tr>
<th>Number and Quantity Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| N-VM-5. (+) Multiply a vector by a scalar.  
a. Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as \(c(v_x, v_y) = (cv_x, cv_y)\).  
b. Compute the magnitude of a scalar multiple \(cv\) using \(|cv| = |c||v|\). Compute the direction of \(cv\) knowing that when \(|c||v| \neq 0\), the direction of \(cv\) is either along \(v\) (for \(c > 0\)) or against \(v\) (for \(c < 0\)). |  | a)  
**INSTRUCTION:**  
New Concept 420  
Lesson(s) 63  

b)  
**INSTRUCTION:**  
New Concept 420  
Lesson(s) 63 |  |
| N-VM-6. (+) Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network. | **INSTRUCTION:**  
Investigation 826-829  
Investigation 12  
Lab 824-825  
Lab 11 |  | **INSTRUCTION:**  
New Concept 29-33  
Lesson(s) 5  
Lab 27-28  
Lab 2  

**MAINTENANCE:**  
Practice 33, 34, 39, 40, 41, 45, 47, 52, 53, 58, 59, 60, 68, 83, 98, 99, 110, 113, 191, 251, 256, 682, 711, 718, 731, 761 |
| N-VM-7. (+) Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled. |  |  | **INSTRUCTION:**  
New Concept 29-33  
Lesson(s) 5  
Lab 27-28  
Lab 2  

**MAINTENANCE:**  
Practice 33, 34, 39, 40, 41, 45, 47, 52, 53, 58, 59, 60, 68, 83, 98, 99, 110, 113, 191, 251, 256, 682, 711, 718, 731, 761 |
### Number and Quantity Standards  
(+ = advanced; * = also a Modeling Standard)

<table>
<thead>
<tr>
<th>Standard</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| N-VM-8. (+) Add, subtract, and multiply matrices of appropriate dimensions. | **INSTRUCTION:**  
Investigation 12 826-829 (addition and subtraction)  
Lab 824-825  
Lab(s) 11 | **INSTRUCTION:**  
New Concept 648-650, 680-683  
Lesson(s) 100, 105 | **INSTRUCTION:**  
New Concept 29-33, 54-58  
Lesson(s) 5, 9  
**MAINTENANCE:**  
Practice 651, 652, 659, 660, 666, 673, 678, 683, 684, 685, 688, 689, 690, 694, 695, 701, 703, 707, 711, 719, 724, 729, 739, 752, 769 |

| N-VM-9. (+) Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties. | **INSTRUCTION:**  
New Concept 54-58  
Lesson(s) 9 | **MAINTENANCE:**  
Practice 58, 59, 60, 66, 68, 76, 83, 92, 99, 105, 111, 121, 128, 150, 152, 162, 168, 175, 184, 185, 193, 200, 230, 251, 256, 270, 682, 712, 718, 731, 736, 761 |

| N-VM-10. (+) Understand that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse. | **INSTRUCTION:**  
New Concept 29-33, 54-58  
Lesson(s) 5, 9  
**MAINTENANCE:**  
Practice 33, 34, 39, 40, 41, 45, 47, 52, 53, 58, 59, 60, 66, 68, 76, 83, 92, 98, 99, 105, 110, 111, 113, 121, 128, 150, 162, 168, 175, 184, 185, 191, 193, 200, 230, 251, 256, 270, 682, 712, 718, 731, 736, 761 |
| Number and Quantity Standards  
(+ = advanced; * = also a Modeling Standard) | Saxon Algebra 1 | Saxon Geometry | Saxon Algebra 2 |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N-VM-11.</strong> (+) Multiply a vector (regarded as a matrix with one column) by a matrix of suitable dimensions to produce another vector. Work with matrices as transformations of vectors.</td>
<td>This standard is outside the scope of the Saxon AGA series.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| **N-VM-12.** (+) Work with $2 \times 2$ matrices as a transformations of the plane, and interpret the absolute value of the determinant in terms of area. | | **INSTRUCTION:**  
New Concept 648-650, 680-683, 756-758  
Lesson(s) 100, 105, 118  
**MAINTENANCE:**  
Practice 651, 652, 659, 660, 666, 673, 678, 683, 684, 685, 688, 689, 690, 694, 695, 701, 703, 707, 711, 719, 724, 729, 739, 752, 758, 759, 760, 764, 765, 769, 770 | | **INSTRUCTION:**  
New Concept 93-97  
Lesson(s) 14  
**MAINTENANCE:**  
Practice 98, 104, 112, 113, 122, 123, 127, 128, 142, 151, 162, 175, 176, 185, 193, 199, 213, 220, 231, 239, 244, 264, 265, 271, 276, 367, 390, 404, 412, 431, 688, 767 |
<table>
<thead>
<tr>
<th>Algebra Standards</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+ = advanced; * = also a Modeling Standard)</td>
<td>a)</td>
<td></td>
<td>a)</td>
</tr>
<tr>
<td>A-SSE-1. Interpret expressions that represent a quantity in terms of its context.* a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity.</td>
<td>INSTRUCTION: New Concept 7-9, 93-95 Lesson(s) 2, 17</td>
<td>MAINTENANCE: Practice 10, 15, 20, 25, 30, 95, 96, 100, 101, 102, 107, 108, 115, 116, 126, 132, 137, 138, 151, 157, 169, 174, 176, 196, 201, 203, 246 INSTRUCTION: New Concept 86-89, 172, 271 Lesson(s) 16, 29, 43</td>
<td>MAINTENANCE: Practice 194-197, 201-204, 443 Lesson(s) 27, 28, 62 INSTRUCTION: New Concept 201-204 Lesson(s) 28</td>
</tr>
</tbody>
</table>

Page 12 of 81
<table>
<thead>
<tr>
<th>Algebra Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-SSE-2. Use the structure of an expression to identify ways to rewrite it.</td>
<td><strong>INSTRUCTION:</strong></td>
<td><strong>INSTRUCTION:</strong></td>
<td><strong>INSTRUCTION:</strong></td>
</tr>
<tr>
<td><strong>New Concept</strong></td>
<td>239-240, 270-272, 517-520, 570-573, 609-612</td>
<td><strong>Skills Bank</strong></td>
<td>793, 795</td>
</tr>
<tr>
<td><strong>Lesson(s)</strong></td>
<td>38, 43, 79, 87, 92</td>
<td><strong>Skills Bank Lesson(s)</strong></td>
<td>18, 20</td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algebra Standards (+ = advanced; * = also a Modeling Standard)</td>
<td>Saxon Algebra 1</td>
<td>Saxon Geometry</td>
<td>Saxon Algebra 2</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>----------------</td>
<td>---------------</td>
<td>----------------</td>
</tr>
<tr>
<td>A-SSE-3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.</td>
<td>a) <strong>INSTRUCTION:</strong> New Concept 586, 640-642 Lesson(s) 89, 96 <strong>MAINTENANCE:</strong> Practice 653, 668, 682, 704, 746, 758</td>
<td>a) <strong>INSTRUCTION:</strong> Skills Bank 795-796 Skills Bank Lesson(s) 20 <strong>MAINTENANCE:</strong> Practice 256, 257, 258, 264, 265, 271, 277, 284, 290, 292, 301, 310, 322, 330, 335, 341, 382, 453, 459, 751, 755, 769, 779, 785</td>
<td>a) <strong>INSTRUCTION:</strong> New Concept 253-256 Lesson(s) 35 <strong>MAINTENANCE:</strong> Practice 256, 257, 258, 264, 265, 271, 277, 284, 290, 292, 301, 310, 322, 330, 335, 341, 382, 453, 459, 751, 755, 769, 779, 785</td>
</tr>
<tr>
<td>a. Factor a quadratic expression to reveal the zeros of the function it defines.</td>
<td>c) <strong>INSTRUCTION:</strong> New Concept 727-731 Lesson(s) 108 <strong>MAINTENANCE:</strong> Practice 731, 732, 739, 740, 747, 759, 767, 774, 781, 786, 793, 795, 803</td>
<td></td>
<td><strong>MAINTENANCE:</strong> Practice 417, 418, 419, 424, 425, 432, 440, 4445, 446, 454, 460, 466, 474, 480, 482, 486, 494, 500, 510, 526, 527, 545, 551, 596, 610, 644, 650</td>
</tr>
<tr>
<td>b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.</td>
<td></td>
<td>c) <strong>INSTRUCTION:</strong> New Concept 13-16, 420-424 Lesson(s) 3, 59 <strong>MAINTENANCE:</strong> Practice 16, 17, 18, 25, 26, 33, 34, 35, 39, 41, 46, 51, 135, 160, 184, 204, 239, 250, 256, 263, 424, 425, 432, 439, 440, 441,</td>
<td></td>
</tr>
</tbody>
</table>
### Algebra Standards

(+ = advanced; * = also a Modeling Standard)

<table>
<thead>
<tr>
<th>Algebra Standards</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A-SSE-4. Derive</strong></td>
<td></td>
<td></td>
<td>445, 446, 454,</td>
</tr>
<tr>
<td><strong>the formula</strong></td>
<td></td>
<td></td>
<td>459, 468, 473,</td>
</tr>
<tr>
<td><strong>for the sum</strong></td>
<td></td>
<td></td>
<td>475, 481, 487,</td>
</tr>
<tr>
<td><strong>of a finite</strong></td>
<td></td>
<td></td>
<td>488, 492, 494,</td>
</tr>
<tr>
<td><strong>geometric</strong></td>
<td></td>
<td></td>
<td>500, 510, 511,</td>
</tr>
<tr>
<td><strong>series</strong></td>
<td></td>
<td></td>
<td>527, 551, 556,</td>
</tr>
<tr>
<td><strong>(when the</strong></td>
<td></td>
<td></td>
<td>561, 569, 589,</td>
</tr>
<tr>
<td><strong>common</strong></td>
<td></td>
<td></td>
<td>615, 633, 689</td>
</tr>
<tr>
<td><strong>ratio is not</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1), and use</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>the formula</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>to solve</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>problems.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INSTRUCTION:**
- New Concept 786-790
- Lesson(s) 113

**MAINTENANCE:**
- Practice 790, 792, 797, 810, 823, 829

<table>
<thead>
<tr>
<th>Algebra Standards</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A-APR-1.</strong></td>
<td></td>
<td></td>
<td>445, 446, 454,</td>
</tr>
<tr>
<td><strong>Understand</strong></td>
<td></td>
<td></td>
<td>459, 468, 473,</td>
</tr>
<tr>
<td><strong>that polynomials</strong></td>
<td></td>
<td></td>
<td>475, 481, 487,</td>
</tr>
<tr>
<td><strong>form a system</strong></td>
<td></td>
<td></td>
<td>488, 492, 494,</td>
</tr>
<tr>
<td><strong>analogous</strong></td>
<td></td>
<td></td>
<td>500, 510, 511,</td>
</tr>
<tr>
<td><strong>to the integers</strong>,</td>
<td></td>
<td></td>
<td>527, 551, 556,</td>
</tr>
<tr>
<td><strong>namely, they are closed</strong></td>
<td></td>
<td></td>
<td>561, 569, 589,</td>
</tr>
<tr>
<td><strong>under the</strong></td>
<td></td>
<td></td>
<td>615, 633, 689</td>
</tr>
<tr>
<td><strong>operations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>of addition</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>subtraction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>and multiplication;</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>add, subtract, and</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>multiply</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>polynomials.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INSTRUCTION:**
- New Concept 335-339, 375-379
- Lesson(s) 53, 58

**MAINTENANCE:**

<table>
<thead>
<tr>
<th>Algebra Standards</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A-APR-1.</strong></td>
<td></td>
<td></td>
<td>445, 446, 454,</td>
</tr>
<tr>
<td><strong>Understand</strong></td>
<td></td>
<td></td>
<td>459, 468, 473,</td>
</tr>
<tr>
<td><strong>that polynomials</strong></td>
<td></td>
<td></td>
<td>475, 481, 487,</td>
</tr>
<tr>
<td><strong>form a system</strong></td>
<td></td>
<td></td>
<td>488, 492, 494,</td>
</tr>
<tr>
<td><strong>analogous</strong></td>
<td></td>
<td></td>
<td>500, 510, 511,</td>
</tr>
<tr>
<td><strong>to the integers</strong>,</td>
<td></td>
<td></td>
<td>527, 551, 556,</td>
</tr>
<tr>
<td><strong>namely, they are closed</strong></td>
<td></td>
<td></td>
<td>561, 569, 589,</td>
</tr>
<tr>
<td><strong>under the</strong></td>
<td></td>
<td></td>
<td>615, 633, 689</td>
</tr>
<tr>
<td><strong>operations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>of addition</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>subtraction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>and multiplication;</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>add, subtract, and</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>multiply</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>polynomials.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INSTRUCTION:**
- New Concept 335-339, 375-379
- Lesson(s) 53, 58

**MAINTENANCE:**

---

Page 15 of 81
**Algebra Standards**

(\(+=\) advanced; \(*=\) also a Modeling Standard)

<table>
<thead>
<tr>
<th>Algebra Standards</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| A-APR-2. Know and apply the Remainder Theorem: For a polynomial \(p(x)\) and a number \(a\), the remainder on division by \(x - a\) is \(p(a)\), so \(p(a) = 0\) if and only if \((x - a)\) is a factor of \(p(x)\). | | | **INSTRUCTION:**  
**New Concept** 365-367, 665-667  
**Lesson(s)** 51, 95 |
| A-APR-3. Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial. | **INSTRUCTION:**  
**New Concept** 586, 640-642  
**Lesson(s)** 89, 96 | | **INSTRUCTION:**  
**New Concept** 253-256, 540-543  
**Lesson(s)** 35, 76 |
| A-APR-4. Prove polynomial identities and use them to describe numerical relationships. | | | **This standard is beyond the scope of the Saxon AGA series.** |
### Algebra Standards

<table>
<thead>
<tr>
<th>(+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A-APR-5. (+) Know and apply the Binomial Theorem for the expansion of ((x + y)^n) in powers of (x) and (y) for a positive integer (n), where (x) and (y) are any numbers, with coefficients determined for example by Pascal’s Triangle. (The Binomial Theorem can be proved by mathematical induction or by a combinatorial argument.)</strong></td>
<td></td>
<td></td>
<td>INSTRUCTION: New Concept 348-351 Lesson(s) 49</td>
</tr>
<tr>
<td><strong>A-APR-6. Rewrite simple rational expressions in different forms; write (a(x)/b(x)) in the form (q(x) + r(x)/b(x)), where (a(x), b(x), q(x), ) and (r(x)) are polynomials with the degree of (r(x)) less than the degree of (b(x)), using inspection, long division, or, for the more complicated examples, a computer algebra system.</strong></td>
<td>INSTRUCTION: New Concept 616-620 Lesson(s) 93</td>
<td></td>
<td>INSTRUCTION: New Concept 201-204, 226-230, 273-276 Lesson(s) 28, 31, 38</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>A-APR-7. (+) Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.</strong></td>
<td>INSTRUCTION: New Concept 616-620 Lesson(s) 93</td>
<td></td>
<td>INSTRUCTION: New Concept 201-204 Lesson(s) 28</td>
</tr>
</tbody>
</table>
## Algebra Standards

(+ = advanced; * = also a Modeling Standard)

<table>
<thead>
<tr>
<th>Algebra Standards</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| A-CED-1. Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.* | **INSTRUCTION:** New Concept 103-106, 134-137, 282-284, 430-433
Lesson(s) 19, 23, 45, 66 | MAINTENANCE:
Lesson(s) 10, 26 |
| A-CED-2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.* | **INSTRUCTION:** New Concept 171-174, 179-183, 386, 414, 439
Lesson(s) 29, 30, 59, 63, 67 | MAINTENANCE:
Lesson(s) 8, 12 |
| | | | MAINTENANCE:
### A-CED-3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.

**INSTRUCTION:**
  - Lesson(s): 36, 45, 56, 64, 65

**MAINTENANCE:**

**INSTRUCTION:**
- New Concept: 534, 575-576, 732-733
  - Lesson(s): 81, 88, 114

**MAINTENANCE:**
- Practice: 536, 571, 577, 578, 584, 591, 647, 734, 741

### A-CED-4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.

**INSTRUCTION:**
- New Concept: 171-174
  - Lesson(s): 29

**MAINTENANCE:**
- Practice: 174, 185, 194, 196, 203, 215, 235, 240, 266, 267, 372

**INSTRUCTION:**
- New Concept: 384-388
  - Lesson(s): 54

**MAINTENANCE:**
- Practice: 388, 389, 395, 396, 403, 405, 410, 418, 430, 439, 440, 446, 453, 481, 482, 488, 500, 501, 510, 511, 517, 556, 557
### Algebra Standards

<table>
<thead>
<tr>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INSTRUCTION:</strong></td>
<td><strong>INSTRUCTION:</strong></td>
<td><strong>INSTRUCTION:</strong></td>
</tr>
<tr>
<td><strong>New Concept</strong> 103-106, 120-123, 127-130, 140-141, 153-154, 164-166</td>
<td><strong>New Concept</strong> 574-575</td>
<td><strong>New Concept</strong> 42-45, 253-256, 469-473, 552-555</td>
</tr>
<tr>
<td><strong>Lesson(s)</strong> 19, 21, 22, 24, 26, 28</td>
<td><strong>Skills Bank</strong> 790</td>
<td><strong>Lesson(s)</strong> 7, 35, 66, 78</td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong></td>
<td><strong>Skills Bank Lesson(s)</strong> 15</td>
<td></td>
</tr>
</tbody>
</table>

**A-REI-1.** Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
## Algebra Standards

(+ = advanced; * = also a Modeling Standard)

<table>
<thead>
<tr>
<th>A-REI-2. Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saxon Algebra 1</td>
</tr>
<tr>
<td>Saxon Geometry</td>
</tr>
<tr>
<td>Saxon Algebra 2</td>
</tr>
<tr>
<td><strong>INSTRUCTION:</strong></td>
</tr>
</tbody>
</table>

### A-REI-2
- New Concept
- Lesson(s)
  - 19, 21, 22, 24, 26, 28, 31, 42, 99

### MAINTENANCE:
- Practice
### Algebra Standards

(+ = advanced; * = also a Modeling Standard)

<table>
<thead>
<tr>
<th>Algebra Standards</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-REI-3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.</td>
<td><strong>INSTRUCTION:</strong> &lt;br&gt;New Concept 103-106, 120-123, 134-137, 140-142, 153-155, 164-167, 190-193, 263-266, 662-665 &lt;br&gt;Lesson(s) 19, 21, 22, 24, 26, 28, 31, 42, 99</td>
<td><strong>INSTRUCTION:</strong> &lt;br&gt;Skills Bank 790-791 &lt;br&gt;Skills Bank Lesson(s) 15</td>
<td><strong>INSTRUCTION:</strong> &lt;br&gt;New Concept 42-45, 61-65, 617-620 &lt;br&gt;Lesson(s) 7, 10, 88</td>
</tr>
</tbody>
</table>
Algebra Standards
(+ = advanced; * = also a Modeling Standard)

<table>
<thead>
<tr>
<th>A-REI-4. Solve quadratic equations in one variable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Use the method of completing the square to transform any quadratic equation in ( x ) into an equation of the form ((x - p)^2 = q) that has the same solutions. Derive the quadratic formula from this form.</td>
</tr>
<tr>
<td>b. Solve quadratic equations by inspection (e.g., for ( x^2 = 49 )), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as ( a \pm bi ) for real numbers ( a ) and ( b ).</td>
</tr>
</tbody>
</table>

### Saxon Algebra 1

- **INSTRUCTION:**
  - New Concept 698-701, 742
  - Lesson(s) 104, 110

- **MAINTENANCE:**
  - Practice, 702, 709, 710, 718, 719, 726, 733, 740, 747, 758, 759, 760, 768, 774, 781, 803, 816, 823

- **INSTRUCTION:**
  - New Concept 655-659, 698-701, 742-745
  - Lesson(s) 98, 104, 110

- **MAINTENANCE:**
  - Practice, 659, 667, 675, 702, 709, 710, 718, 719, 726, 733, 740, 746, 747, 758, 759, 760, 767-768, 773-774, 781, 794, 802-803, 816, 823

### Saxon Geometry

- **INSTRUCTION:**
  - Skills Bank 796
  - Skills Bank Lesson(s) 20

- **INSTRUCTION:**
  - Skills Bank 795-796
  - Skills Bank Lesson(s) 20

### Saxon Algebra 2

- **INSTRUCTION:**
  - New Concept 413-416
  - Lesson(s) 58

- **MAINTENANCE:**
  - Practice 417, 418, 419, 424, 425, 432, 440, 4445, 446, 454, 460, 466, 467, 474, 480, 482, 486, 494, 500, 510, 526, 527, 545, 551, 596, 610, 644, 650

- **INSTRUCTION:**
  - New Concept 253-256, 413-416, 442-444, 462-465, 552-555
  - Lesson(s) 35, 58, 62, 65, 78

- **MAINTENANCE:**
<table>
<thead>
<tr>
<th>Algebra Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| A-REI-5. Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions. | **INSTRUCTION:**  
New Concept 382-387, 412-415  
Lesson(s) 59, 63 | **MAINTENANCE:**  
Practice 387, 393, 394, 402, 403, 410, 415, 421-422, 428, 434, 441, 447, 452, 480, 492, 499, 695 | **INSTRUCTION:**  
New Concept 170-174  
Lesson(s) 24 |
| A-REI-6. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables. | **INSTRUCTION:**  
New Concept 354-357, 382-387, 412-415, 436-439  
Lesson(s) 55, 59, 63, 67 | **MAINTENANCE:**  
Practice 359, 367, 373, 374, 387, 393, 394, 402, 403, 410, 416, 417, 421, 422, 423, 428, 429, 434, 441, 442, 446, 448, 452, 453, 460, 463, 471, 473, 480, 484, 486, 491, 492, 499, 504, 509, 514, 520, 528, 540, 547, 695, 718, 724 | **INSTRUCTION:**  
New Concept 146-149, 170-174  
Lesson(s) 21, 24 |
| A-REI-7. Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. | **INSTRUCTION:**  
New Concept 761-766  
Lesson(s) 112 | **MAINTENANCE:**  
Practice 766, 768, 772, 780, 787, 795, 802, 807, 816, 821 | **INSTRUCTION:**  
New Concept |
<table>
<thead>
<tr>
<th>Algebra Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-REI-8. (+) Represent a system of linear equations as a single matrix equation in a vector variable.</td>
<td></td>
<td></td>
<td>INSTRUCTION: New Concept 235-237 Lesson(s) 32</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MAINTENANCE: Practice 237, 238, 239, 244, 245, 251, 256, 258, 264, 272, 276, 278, 285, 291, 302, 310, 316, 330, 336, 411, 518, 562, 695, 711, 717, 736, 761, 767, 785, 795, 802</td>
</tr>
<tr>
<td>A-REI-9. (+) Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension $3 \times 3$ or greater).</td>
<td></td>
<td></td>
<td>INSTRUCTION: New Concept 233-236 Lesson(s) 32</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MAINTENANCE: Practice 237, 238, 239, 244, 245, 251, 256, 258, 264, 272, 276, 278, 285, 291, 302, 310, 316, 330, 336, 411, 518, 562, 695, 711, 717, 736, 761, 767, 785, 795, 802</td>
</tr>
</tbody>
</table>
Saxon Algebra 1, Geometry, Algebra 2
correlated to the
The Common Core State Standards for Mathematics: High School

<table>
<thead>
<tr>
<th>Algebra Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-REI-10. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).</td>
<td><strong>INSTRUCTION:</strong> New Concept 364, 418-421, 511-513, 638-642, 669-673, 776-779&lt;br&gt;Lesson(s) 56, 64, 78, 96, 100, 114&lt;br&gt;Lab 305, 583, 775&lt;br&gt;Lab(s) 3, 8, 10</td>
<td><strong>INSTRUCTION:</strong> New Concept 98-99, 238-240&lt;br&gt;Lesson(s) 16, 37</td>
<td><strong>INSTRUCTION:</strong> New Concept 86-90, 100-103, 246-250, 253-256, 337-340&lt;br&gt;Lesson(s) 13, 15, 34, 35, 47</td>
</tr>
</tbody>
</table>
### Algebra Standards

<table>
<thead>
<tr>
<th>Algebra Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| A-REI-11. Explain why the $x$-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions. * | **INSTRUCTION:** New Concept 382-387, 412-415, 436-439  
Lesson(s) 59, 63, 67 | **MAINTENANCE:**  
**Practice** 387, 393, 394, 402, 403, 410, 416, 417, 421, 422, 423, 428, 429, 434, 441, 442, 447, 448, 452, 453, 460, 461, 471, 473, 480, 484, 486, 491, 492, 499, 504, 509, 514, 520, 528, 540, 547, 695, 718, 724 | **INSTRUCTION:** New Concept 100-103  
Lesson(s) 15 |
| A-REI-12. Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes. | **INSTRUCTION:** New Concept 647-651  
Lesson(s) 97  
Lab 645-646  
Lab(s) 9 | **MAINTENANCE:**  
**Practice** 652, 653, 659, 660, 668, 674, 675, 682, 689, 695, 711, 719, 726, 748, 768, 774, 787 | **INSTRUCTION:** New Concept 731-733  
Lesson(s) 114 |
|  | | | **INSTRUCTION:** New Concept 279-283  
Lesson(s) 39 |
|  | | | **MAINTENANCE:**  
**Practice** 283, 284, 285, 290, 291, 292, 301, 310, 317, 321, 329, 335, 341, 347, 354, 368, 381, 382, 404, 411, 425, 459, 467, 713, 737, 811 |
### Functions Standards

(+ = advanced; * = also a Modeling Standard)

<table>
<thead>
<tr>
<th>Function Standard</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F-IF-1.</strong> Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If $f$ is a function and $x$ is an element of its domain, then $f(x)$ denotes the output of $f$ corresponding to the input $x$. The graph of $f$ is the graph of the equation $y = f(x)$.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INSTRUCTION:</strong></td>
<td>New Concept 146-149, 179-183</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson(s)</td>
<td>25, 30</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice 149, 150, 155, 156, 162, 168, 169, 174, 184, 195, 202, 209, 216, 222, 227, 248, 253, 262, 273, 279, 332, 642</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INSTRUCTION:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skills Bank 792</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skills Bank Lesson(s) 17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INSTRUCTION:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Concept 21-24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson(s) 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>F-IF-2.</strong> Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INSTRUCTION:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Concept 146-149, 179-183</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson(s) 25,30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice 149, 150, 155, 156, 162, 168, 169, 174, 184, 195, 202, 209, 216, 222, 227, 248, 253, 262, 273, 279, 332, 642</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INSTRUCTION:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skills Bank 792</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skills Bank Lesson(s) 17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INSTRUCTION:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Concept 21-24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson(s) 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>F-IF-3.</strong> Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INSTRUCTION:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Concept 211-214</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson(s) 34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice 214, 215, 221, 222, 228, 234, 242, 247, 253, 261, 268, 272, 273, 280, 297, 312, 318, 326, 709</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INSTRUCTION:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Concept 646-649</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson(s) 92</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice 649, 650, 656, 663, 670, 677, 683, 695, 723, 731,736, 749, 755, 767, 778, 797, 811</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Functions Standards

(+ = advanced; * = also a Modeling Standard)

<table>
<thead>
<tr>
<th>Functions Standards</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F-IF-4.</strong> For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. <strong>Key features include:</strong> intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*</td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 179-183, 782-785, 809-813&lt;br&gt;Lesson(s) 30, 115, 119</td>
<td><strong>MAINTENANCE:</strong>&lt;br&gt;Practice 184, 194, 195, 202, 215, 216, 235, 242, 248, 267, 272, 273, 287, 291, 785, 786, 794, 802, 808, 814, 815, 816, 821, 822, 823</td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 155-158, 215-219, 254-256, 385, 606-609, 630-632, 706-710&lt;br&gt;Lab 3 84-85&lt;br&gt;Lesson(s) 22, 30, 35, 54, 86, 90, 101</td>
</tr>
</tbody>
</table>
### Functions Standards

(+ = advanced; * = also a Modeling Standard)

<table>
<thead>
<tr>
<th>Standards</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| F-IF-5. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. | **INSTRUCTION:**
New Concept 179-183, 782-785, 809-813
Lesson(s) 30, 115, 119 | **INSTRUCTION:**
New Concept 22, 24, 696-699
Lesson(s) 4, 100 | **INSTRUCTION:**
| **MAINTENANCE:**
Practice 184, 194, 195, 202, 215, 216, 235, 242, 248, 267, 272, 273, 287, 291, 785, 786, 794, 802, 808, 814, 815, 816, 821, 822, 823 | **MAINTENANCE:**
Practice 33, 111, 700, 717, 723 |

| F-IF-6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.* | **INSTRUCTION:**
New Concept 256-259
Lesson(s) 41 | **INSTRUCTION:**
New Concept 86-90
Lesson(s) 13 | **INSTRUCTION:**
| **MAINTENANCE:**
Practice 260, 268, 269, 274, 281, 285, 287, 292, 298, 312, 318, 327, 348, 358, 372 | **MAINTENANCE:**
### Functions Standards

(+ = advanced; * = also a Modeling Standard)

<table>
<thead>
<tr>
<th>F-IF-7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Graph linear and quadratic functions and show intercepts, maxima, and minima.</td>
</tr>
<tr>
<td>b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.</td>
</tr>
<tr>
<td>c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.</td>
</tr>
<tr>
<td>d. (+) Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.</td>
</tr>
<tr>
<td>e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Saxon Algebra 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) INSTRUCTION:</td>
</tr>
<tr>
<td>New Concept 179-183, 217-220, 782-785, 809-813</td>
</tr>
<tr>
<td>Lesson(s) 30, 35, 115, 119</td>
</tr>
<tr>
<td>MAINTENANCE:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Saxon Geometry</th>
</tr>
</thead>
<tbody>
<tr>
<td>b) INSTRUCTION:</td>
</tr>
<tr>
<td>Lab 3 84-85</td>
</tr>
<tr>
<td>Lesson(s) 22, 27, 30, 35, 54, 86, 90</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) INSTRUCTION:</td>
</tr>
<tr>
<td>New Concept 179-183, 782-785, 809-813</td>
</tr>
<tr>
<td>Lesson(s) 30, 115, 119</td>
</tr>
<tr>
<td>MAINTENANCE:</td>
</tr>
<tr>
<td>Practice 724, 726, 731, 732, 733, 739, 740, 747, 748, 759, 773, 779, 781, 785, 786, 787, 794, 795, 802, 808, 814, 815, 816, 821, 822, 823</td>
</tr>
</tbody>
</table>

| b) INSTRUCTION: |
| New Concept 119, 558-560 |
| Lesson(s) 17, 79 |
| MAINTENANCE: |
| Practice 562, 571, 591, 597, 603, |
## Functions Standards (+ = advanced; * = also a Modeling Standard)

<table>
<thead>
<tr>
<th>Functions Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAINTENANCE: Practice 508, 514, 520, 521, 526, 527, 528, 536, 540, 541, 548, 554, 561, 567, 574, 580, 608, 622, 630, 803</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>e)</strong> INSTRUCTION: New Concept 727-731 Lesson(s) 108</td>
<td>Practice 731, 732, 739, 740, 747, 759, 767, 774, 781, 786, 793, 795, 803</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAINTENANCE: Practice 731, 732, 739, 740, 747, 759, 767, 774, 781, 786, 793, 795, 803</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Page 32 of 81**
F-IF-8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.

a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.

b. Use the properties of exponents to interpret expressions for exponential functions.

<table>
<thead>
<tr>
<th>Functions Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-IF-8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.</td>
<td>a) <strong>INSTRUCTION:</strong> New Concept 585-589, 809-813 Lesson(s) 89, 119 <strong>MAINTENANCE:</strong> Practice 590, 591, 596, 597, 606, 607, 613, 621, 622, 628, 635, 637, 642, 654, 661, 666, 690, 704, 711, 814, 815, 816, 822, 823</td>
<td></td>
<td>397, 403, 440, 749, 767, 778, 803, 816, 818, 824, 830</td>
</tr>
<tr>
<td></td>
<td>b) <strong>INSTRUCTION:</strong> New Concept 727-731 Investigation 749-753 <strong>MAINTENANCE:</strong> Practice 731, 732, 739, 740, 747, 759, 767, 774, 781, 786, 793, 795, 803</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Page 33 of 81
Functions Standards (+ = advanced; * = also a Modeling Standard) & Saxon Algebra 1 & Saxon Geometry & Saxon Algebra 2

<table>
<thead>
<tr>
<th>Standards</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| F-IF-9. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). | **INSTRUCTION:**
New Concept 809-813
Lesson(s) 119 | **MAINTENANCE:**
Practice 814, 815, 816, 821, 822, 823 | **INSTRUCTION:**
New Concept 194-197
Lesson(s) 27 |
| F-BF-1. Write a function that describes a relationship between two quantities.*  
  a. Determine an explicit expression, a recursive process, or steps for calculation from a context.  
  b. Combine standard function types using arithmetic operations.  
  c. (+) Compose functions. | a) **INSTRUCTION:**
New Concept 21-24, 155-159, 558-560
Lesson(s) 4, 22, 79
Investigation 9 635-637 |
| | b) **INSTRUCTION:**
New Concept 136-140 |
Functions Standards
(+ = advanced; * = also a Modeling Standard) | Saxon Algebra 1 | Saxon Geometry | Saxon Algebra 2
---|---|---|---
| | | Lesson(s) 20
MAINTENANCE:
Practice 142, 150, 151, 160, 167, 176, 184, 192, 200, 206, 212, 214, 232, 239, 244, 256, 270, 283, 290, 301, 315, 334, 345, 360, 403, 562

INSTRUCTION:
New Concept 378-381
Lesson(s) 53
MAINTENANCE:
Practice 381, 382, 390, 397, 405, 410, 419, 426, 431, 432, 439, 440, 454, 459, 467, 475, 499, 501, 511, 526, 561, 577, 589, 615, 767
<table>
<thead>
<tr>
<th>Functions Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F-BF-2.</strong> Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.*</td>
<td><strong>INSTRUCTION:</strong> New Concept 211-213 Lesson(s) 34</td>
<td></td>
<td><strong>INSTRUCTION:</strong> New Concept 646-649, 678-681 Lesson(s) 92, 97</td>
</tr>
<tr>
<td></td>
<td><strong>MAINTENANCE:</strong> Practice 214, 215, 221, 222, 228, 234, 242, 253, 261, 268, 272, 273, 280, 297, 312, 318, 326, 709</td>
<td></td>
<td><strong>MAINTENANCE:</strong> Practice 649, 650, 656, 663, 670, 677, 682, 683, 688, 695, 712, 718, 723, 730, 731, 736, 743, 749, 755, 763, 767, 778, 785, 792, 796, 797, 802, 803, 811, 817, 829</td>
</tr>
<tr>
<td><strong>F-BF-3.</strong> Identify the effect on the graph of replacing ( f(x) ) by ( f(x) + k, kf(x), f(kx) ), and ( f(x + k) ) for specific values of ( k ) (both positive and negative); find the value of ( k ) given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. <em>Include recognizing even and odd functions from their graphs and algebraic expressions for them.</em></td>
<td><strong>INSTRUCTION:</strong> New Concepts 720-724 Investigation 6 396-397 Lesson(s) 107</td>
<td></td>
<td><strong>INSTRUCTION:</strong> New Concept 119-120, 215-219, 337-340, 706-710, 725-729, 774-775 *New Concept 114-115 Lesson(s) 17, 30, 47, 101, 104, 111 Investigation 9 636 Lab 323-324, 455-456 Lab 8, 10</td>
</tr>
</tbody>
</table>

*Foundational reference
<table>
<thead>
<tr>
<th>Functions Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| F-BF-4. Find inverse functions.  
a. Solve an equation of the form $f(x) = c$ for a simple function $f$ that has an inverse and write an expression for the inverse.  
b. (+) Verify by composition that one function is the inverse of another.  
c. (+) Read values of an inverse function from a graph or a table, given that the function has an inverse.  
d. (+) Produce an invertible function from a non-invertible function by restricting the domain. | | | a)  
**INSTRUCTION:**  
New Concept 355-358  
Lesson(s) 50  
**MAINTENANCE:**  

b)  
**INSTRUCTION:**  
New Concept 355-358, 476-479  
Lesson(s) 50, 67  
**MAINTENANCE:**  

c)  
**INSTRUCTION:**  
New Concept 355-358  
Lesson(s) 50  
**MAINTENANCE:**  
Practice 358, 376, 383, 396, 418, 425, 439, 445, 453, 459, 473,
### Functions Standards

<table>
<thead>
<tr>
<th>(+ = advanced; * = also a Modeling Standard)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-BF-5. (+) Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.</td>
</tr>
<tr>
<td>F-LE-1. Distinguish between situations that can be modeled with linear functions and with exponential functions.*</td>
</tr>
<tr>
<td>a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.</td>
</tr>
<tr>
<td>b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.</td>
</tr>
<tr>
<td>c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.</td>
</tr>
</tbody>
</table>

#### Saxon Algebra 1

<table>
<thead>
<tr>
<th>INSTRUCTION:</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Concept 256-259</td>
</tr>
<tr>
<td>Lesson(s) 41</td>
</tr>
<tr>
<td>Investigation 11 749-753</td>
</tr>
</tbody>
</table>

**MAINTENANCE:**

<table>
<thead>
<tr>
<th>Practice</th>
</tr>
</thead>
</table>

#### Saxon Geometry

<table>
<thead>
<tr>
<th>INSTRUCTION:</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Concept 337-340, 406, 652-655, 764-767</td>
</tr>
<tr>
<td>Lesson(s) 47, 57, 93, 110</td>
</tr>
</tbody>
</table>

**MAINTENANCE:**

<table>
<thead>
<tr>
<th>Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>3430, 341, 347, 354, 382, 561, 656, 657, 663, 711, 717, 724, 737, 750, 761, 762, 767, 768, 783, 797, 802, 811, 816, 778, 792, 797, 803, 828</td>
</tr>
</tbody>
</table>

#### Saxon Algebra 2

<table>
<thead>
<tr>
<th>INSTRUCTION:</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Concept 357-358</td>
</tr>
<tr>
<td>Lesson(s) 50</td>
</tr>
</tbody>
</table>

**MAINTENANCE:**

<table>
<thead>
<tr>
<th>Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>501, 510, 543, 569, 577, 778, 812</td>
</tr>
</tbody>
</table>

---

**Page 38 of 81**
### Functions Standards

<table>
<thead>
<tr>
<th>(+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson(s) 41</td>
<td></td>
<td></td>
<td>556, 561, 569, 583, 611, 628, 650, 668, 670, 688</td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>c)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INSTRUCTION:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigation 11 749-753</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson(s) 13</td>
<td></td>
<td></td>
<td>86-90</td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>c)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INSTRUCTION:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Concept 406-409</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson(s) 57</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice 411, 412, 418, 419, 426, 432, 439, 445, 446, 453, 459, 466, 474, 482, 492, 511, 517, 527, 531, 532, 537, 543, 545, 556, 561, 569, 583, 611, 628, 650, 668</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Functions Standards
(+ = advanced; * = also a Modeling Standard)

<table>
<thead>
<tr>
<th>Function Standard</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| F-LE-2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).* | **INSTRUCTION:**  
New Concept 211-213, 256-259, 727-731  
Lesson(s) 34, 41, 108  
Investigation 11 749-753 | **MAINTENANCE:**  
New Concept 646-649  
Lesson(s) 92  
**MAINTENANCE:**  
Practice 649, 650, 656, 663, 670, 677, 683, 695, 723, 731, 736, 749, 755, 767, 778, 797, 811, 817 |

This standard is outside the scope of the Saxon AGA series.

<table>
<thead>
<tr>
<th>Function Standard</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-LE-3. Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Function Standard</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-LE-4. For exponential models, express as a logarithm the solution to $ab^c = d$ where $a$, $c$, and $d$ are numbers and the base $b$ is 2, 10, or $e$; evaluate the logarithm using technology.*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INSTRUCTION:**  
New Concept 574-577  
Lesson(s) 81  
**MAINTENANCE:**  
Practice 577, 578, 584, 585, 591, 96,605, 610, 616, 620, 628, 629, 634, 645, 650, 657, 664, 668, 677, 693 |
<table>
<thead>
<tr>
<th>Functions Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| F-LE-5. Interpret the parameters in a linear or exponential function in terms of a context.* | | | INSTRUCTION:  
New Concept 337-340, 355-358, 406-409  
Lesson(s) 47, 50, 57  
MAINTENANCE:  
| F-TF-1. Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle. | | | INSTRUCTION:  
New Concept 447-452  
Lesson(s) 63  
MAINTENANCE:  
Practice 453, 454, 459, 466, 474, 480, 481, 487, 488, 494, 500, 511, 517, 518, 526, 532, 538, 543, 562, 569, 603, 620, 627, 644 |
### Functions Standards

<table>
<thead>
<tr>
<th>Functions Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| F-TF-2. Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle. | | | **INSTRUCTION:**  
New Concept 447-452  
Lesson(s) 63  
**MAINTENANCE:**  
Practice 453, 454, 459, 466, 474, 480, 481, 487, 488, 494, 500, 511, 517, 518, 526, 532, 538, 543, 562, 569, 603, 620, 627, 644 |
| F-TF-3. (+) Use special triangles to determine geometrically the values of sine, cosine, tangent for $\pi/3$, $\pi/4$ and $\pi/6$, and use the unit circle to express the values of sine, cosines, and tangent for $x$, $\pi + x$, and $2\pi - x$ in terms of their values for $x$, where $x$ is any real number. | | | **INSTRUCTION:**  
New Concept 447-452  
Lesson(s) 63  
**MAINTENANCE:**  
Practice 453, 454, 459, 466, 474, 480, 481, 487, 488, 494, 500, 511, 517, 518, 526, 532, 538, 543, 562, 569, 603, 620, 627, 644 |
| F-TF-4. (+) Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions. | | | **INSTRUCTION:**  
New Concept 447-452, 580-583  
Lesson(s) 63, 82  
**MAINTENANCE:**  
Practice 453, 454, 459, 466, 474, 480, 481, 487, 488, 494, 500, 511, 517, 518, 526, 532, 538, 543, 562, 569, 603, 620, 627, 644 |
<table>
<thead>
<tr>
<th>Functions Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F-TF-5. Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.</strong></td>
<td></td>
<td></td>
<td><strong>INSTRUCTION:</strong> New Concept 582, 606-609, 630-632 Lesson(s) 82, 86, 90</td>
</tr>
<tr>
<td><strong>F-TF-6. (+) Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.</strong></td>
<td></td>
<td></td>
<td><strong>INSTRUCTION:</strong> New Concept 476-479 Lesson(s) 67</td>
</tr>
<tr>
<td><strong>F-TF-7. (+) Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.</strong></td>
<td></td>
<td></td>
<td><strong>INSTRUCTION:</strong> New Concept 479, 825-828 Lesson(s) 67, 119</td>
</tr>
</tbody>
</table>

**MAINTENANCE:**
Practice 609, 610, 611, 615, 616, 622, 627, 633, 634, 644, 645, 650, 656, 663, 670, 677, 683, 689, 702, 713, 724, 730, 737, 768, 769, 778, 779, 792, 823

Practice 480, 482, 488, 493, 494, 501, 517, 526, 527, 533, 538, 539, 545, 551, 556, 562, 570, 578, 579, 584, 590, 596, 609, 627, 649, 657

Practice 828, 829, 830
<table>
<thead>
<tr>
<th>Functions Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-TF-8. Prove the Pythagorean identity ( \sin^2(\theta) + \cos^2(\theta) = 1 ) and use it to calculate trigonometric ratios.</td>
<td><strong>INSTRUCTION:</strong> New Concept 594-597 Lesson(s) 91</td>
<td>Maintenance: Practice 597, 599, 604, 605, 610, 612, 616, 622, 629, 639, 646, 651, 659, 679, 708, 735, 746</td>
<td><strong>INSTRUCTION:</strong> New Concept 780-782 Lesson(s) 112</td>
</tr>
<tr>
<td>F-TF-9. (+) Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.</td>
<td><strong>Instruction:</strong> New Concept 594-597 Lesson(s) 91</td>
<td>Maintenance: Practice 597, 599, 604, 605, 610, 612, 616, 622, 629, 639, 646, 651, 659, 679, 708, 735, 746</td>
<td><strong>INSTRUCTION:</strong> New Concept 780-782 Lesson(s) 112</td>
</tr>
</tbody>
</table>

**MAINTENANCE:** Practice 783, 784, 785, 791, 797, 811, 823
<table>
<thead>
<tr>
<th>Geometry Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-CO-1. Know precise definitions of angle, circle,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>perpendicular line, parallel line, and line segment, based</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>on the undefined notions of point, line, distance along a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>line, and distance around a circular arc.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INSTRUCTION:**
- New Concept 2-4, 13-16, 27-30, 145-147
- Lesson(s) 1, 3, 5, 23

**MAINTENANCE:**
- Practice 5, 6, 11, 12, 17, 18, 25, 31, 32, 38, 39, 45, 46, 50, 51, 52, 56, 57, 61, 70, 76, 82, 83, 87, 93, 101, 106, 113, 119, 144, 148, 150, 155, 156, 160, 162, 166, 173, 178, 179, 184, 185, 186, 192, 193, 204, 209, 215, 222, 229, 241, 247, 261, 272, 277
<table>
<thead>
<tr>
<th>Geometry Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-CO-2. Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).</td>
<td></td>
<td>Saxon Geometry</td>
<td></td>
</tr>
<tr>
<td>Lesson(s) 67, 71, 74, 76, 84, 90, 95, 100, 105</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lab 516-517</td>
<td>Lab(s) 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geometry Standards (+ = advanced; * = also a Modeling Standard)</td>
<td>Saxon Algebra 1</td>
<td>Saxon Geometry</td>
<td>Saxon Algebra 2</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>----------------</td>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>G-CO-3. Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.</td>
<td></td>
<td><strong>INSTRUCTION:</strong> New Concept 446-448, 490-492, 511, 513, 682-683 Lesson(s) 67, 74, 78, 105</td>
<td><strong>MAINTENANCE:</strong> Practice 449, 450, 454, 455, 456, 463, 469, 476, 479, 492, 493, 494, 498, 499, 503, 505, 509, 514, 515, 520, 522, 523, 527, 528, 537, 541, 546, 551, 558, 559, 577, 590, 623, 628, 633, 634, 650, 659, 677, 684, 703, 707, 708, 718, 735, 746</td>
</tr>
<tr>
<td>Geometry Standards (+ = advanced; * = also a Modeling Standard)</td>
<td>Saxon Algebra 1</td>
<td>Saxon Geometry</td>
<td>Saxon Algebra 2</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>----------------</td>
<td>----------------</td>
<td>----------------</td>
</tr>
</tbody>
</table>
| G-CO-4. Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments. | **INSTRUCTION:**
| **New Concept** 446-448, 472-474, 490-492, 511-513, 649-650, 682-683 | **Lesson(s)** 67, 71, 74, 78, 100, 105 | **Lab** 516-517 |
| **Lab(s)** 10 | **MAINTENANCE:**
<table>
<thead>
<tr>
<th>Geometry Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-CO-5. Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.</td>
<td></td>
<td>INSTRUCTION: New Concept 447-448, 473-474, 490-492, 511-513, 681, 683 Lesson(s) 67, 71, 74, 78, 105 Lab 516-517 Lab(s) 10</td>
<td></td>
</tr>
<tr>
<td>G-CO-6. Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.</td>
<td></td>
<td></td>
<td>MAINTENANCE: Practice 449, 450, 454, 455, 463, 469, 475, 476, 479, 480, 481, 488, 492, 493, 494, 498, 499, 503, 505, 509, 514, 522, 540, 541, 546, 551, 557, 558, 583, 590, 603, 633, 634, 650, 661, 677, 707, 708, 718, 725, 735, 765</td>
</tr>
</tbody>
</table>
### Geometry Standards

<table>
<thead>
<tr>
<th>Geometry Standards</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+ = advanced; * = also a Modeling Standard)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G-CO-7. Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G-CO-8. Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Geometry Standards

<table>
<thead>
<tr>
<th>Standards</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| G-CO-9. Prove geometric theorems about lines and angles. Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints. | INSTRUCTION:  
New Concept 2-4, 13-16, 21-24, 27-30, 34-37  
Lesson(s) 1, 3, 4, 5, 6  
Investigation 63-65  
Investigation 1  
Labs 19-20, 40-41  
Lab(s) 1, 3 | MAINTENANCE:  
### G-CO-10. Prove theorems about triangles. 
*Theorems include:* measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.

<table>
<thead>
<tr>
<th>Geometry Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-CO-10. Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.</td>
<td></td>
<td>INSTRUCTION: New Concept 109-112, 244-246, 336-339, 361-365</td>
<td>Lesson(s) 18, 38, 51, 55</td>
</tr>
<tr>
<td>Geometry Standards (+ = advanced; * = also a Modeling Standard)</td>
<td>Saxon Algebra 1</td>
<td>Saxon Geometry</td>
<td>Saxon Algebra 2</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>----------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
</tbody>
</table>
| G-CO-11. Prove theorems about parallelograms. *Theorems include: opposite sides are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.* | | | **INSTRUCTION:**  
New Concept 218-221, 343-346, 406-409, 430-433  
Lesson(s) 34, 52, 61, 65  
**MAINTENANCE:**  

| G-CO-12. Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometry software, etc.). *Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.* | | | **INSTRUCTION:**  
Lab 19-20, 33, 40-41, 77, 180, 250, 280, 387, 443  
Lab(s) 1, 2, 3, 4, 5, 6, 7, 8, 9 |
<table>
<thead>
<tr>
<th>Geometry Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-CO-13. Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INSTRUCTION:</strong> New Concept 686 Lesson(s) 106</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong> Practice 688, 689, 708, 713, 718, 759, 766</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G-SRT-1. Verify experimentally the properties of dilations given by a center and a scale factor: a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged. b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.</td>
<td>a) <strong>INSTRUCTION:</strong> New Concept 548-550 Lesson(s) 84</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong> Practice 550, 551, 557, 558, 559, 563, 570, 584, 590, 604, 616, 634, 673, 707, 734, 751</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) <strong>INSTRUCTION:</strong> New Concept 548-550, 663-664 Lesson(s) 84, 102</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong> Practice 550, 551, 557, 558, 559, 563, 570, 584, 590, 604, 616, 634, 666, 667, 671, 672, 673, 677, 678, 685, 690, 694, 707, 725, 734, 740, 751</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Geometry Standards

<table>
<thead>
<tr>
<th>Geometry Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-SRT-2. Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding angles and the proportionality of all corresponding pairs of sides.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>INSTRUCTION:</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>New Concept</strong> 288-291, 301-305</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Lesson(s)</strong> 44, 46</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>MAINTENANCE:</strong></td>
</tr>
<tr>
<td>G-SRT-3. Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>INSTRUCTION:</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>New Concept</strong> 301-304</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Lesson(s)</strong> 46</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>MAINTENANCE:</strong></td>
</tr>
</tbody>
</table>
### Geometry Standards (+ = advanced; * = also a Modeling Standard)

<table>
<thead>
<tr>
<th>Geometry Standards</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geometry Standards (+ = advanced; * = also a Modeling Standard)</td>
<td>Saxon Algebra 1</td>
<td>Saxon Geometry</td>
<td>Saxon Algebra 2</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>----------------</td>
<td>---------------</td>
<td>----------------</td>
</tr>
<tr>
<td>G-SRT-5. Use congruence and similarity criteria for triangles to solve problems and prove relationships in geometric figures.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INSTRUCTION:**
- **New Concept** 157-160, 175-177, 188-191, 301-305, 336-339
- **Lesson(s)** 25, 28, 30, 46, 51
- **Lab** 180
- **Lab(s)** 5

**MAINTENANCE:**
### Saxon Algebra 1, Geometry, Algebra 2
#### correlated to the
**The Common Core State Standards for Mathematics: High School**

<table>
<thead>
<tr>
<th>Geometry Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>G-SRT-6. Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.</strong></td>
<td><strong>INSTRUCTION:</strong> New Concept 451-453, 594-597 Lesson(s) 68, 91 Investigation 470-471 Investigation 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>G-SRT-7. Explain and use the relationship between the sine and cosine of complementary angles.</strong></td>
<td><strong>INSTRUCTION:</strong> Investigation 470-471 Investigation 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong> Practice 475, 476, 480, 488, 493, 494, 498, 504, 505, 509, 521, 535, 573, 633, 659, 671, 695, 729</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### G-SRT-8. Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.

**INSTRUCTION:**
- **New Concept:** 556-560, 796-800
- **Lesson(s):** 85, 117

**MAINTENANCE:**
- **Practice:** 561, 562, 568, 569, 574, 581, 596, 608, 614, 623, 630, 637, 661, 675, 683, 690, 696, 800, 801, 803, 807, 815, 821, 823

**INSTRUCTION:**
- **Lesson(s):** 8, 29, 33, 53, 56, 68, 91
- **Investigation:** 128-129, 470-471
- **Investigation:** 2, 7

**MAINTENANCE:**
- **New Concept:** 229, 373, 451, 801
- **Lesson(s):** 41, 52, 63, 115
- **MAINTENANCE:**
- **Practice:** 310, 320, 383, 453, 460, 802, 818, 829
<table>
<thead>
<tr>
<th>Geometry Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-SRT-9. (+) Derive the formula $A = \frac{1}{2}ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.</td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 613-615, 636-638&lt;br&gt;Lesson(s) 94, 98</td>
<td>This standard is outside the scope of the Saxon AGA series.</td>
<td></td>
</tr>
<tr>
<td>G-SRT-10. (+) Prove the Laws of Sines and Cosines and use them to solve problems.</td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 613-615, 636-638&lt;br&gt;Lesson(s) 94, 98</td>
<td><strong>MAINTENANCE:</strong>&lt;br&gt;Practice 616, 617, 621, 622, 627, 628, 634, 639, 640, 645, 646, 647, 652, 655, 660, 665, 671, 672, 679, 683, 702, 712, 734, 741, 751, 764, 766, 771</td>
<td></td>
</tr>
<tr>
<td>G-SRT-11. (+) Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).</td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 613-615, 636-638&lt;br&gt;Lesson(s) 94, 98</td>
<td><strong>MAINTENANCE:</strong>&lt;br&gt;Practice 616, 617, 621, 622, 627, 628, 634, 639, 640, 645, 646, 647, 652, 655, 660, 665, 671, 672, 679, 683, 702, 712, 734, 741, 751, 764, 766, 771</td>
<td></td>
</tr>
<tr>
<td>G-C-1. Prove that all circles are similar.</td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 613-615, 636-638&lt;br&gt;Lesson(s) 94, 98</td>
<td><strong>MAINTENANCE:</strong>&lt;br&gt;Practice 616, 617, 621, 622, 627, 628, 634, 639, 640, 645, 646, 647, 652, 655, 660, 665, 671, 672, 679, 683, 702, 712, 734, 741, 751, 764, 766, 771</td>
<td>This standard is outside the scope of the Saxon AGA series.</td>
</tr>
<tr>
<td>Geometry Standards (+ = advanced; * = also a Modeling Standard)</td>
<td>Saxon Algebra 1</td>
<td>Saxon Geometry</td>
<td>Saxon Algebra 2</td>
</tr>
<tr>
<td>-------------------------------------------------------------</td>
<td>---------------</td>
<td>---------------</td>
<td>----------------</td>
</tr>
<tr>
<td>G-C-2. Identify and describe relationships among inscribed angles, radii, and chords. <em>Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.</em></td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 145-147, 308-311, 381-384, 477-479&lt;br&gt;Lesson(s) 23, 47, 58, 72</td>
<td>MAINTENANCE:&lt;br&gt;Practice 148, 150, 155, 156, 160, 162, 166, 173, 178, 179, 184, 185, 186, 192, 193, 240, 209, 215, 222, 229, 235, 241, 247, 261, 272, 277, 312, 313, 314, 317, 318, 319, 325, 326, 332, 342, 347, 353, 367, 371, 372, 379, 384, 385, 386, 394, 395, 400, 401, 411, 416, 423, 428, 435, 440, 442, 450, 454, 462, 479, 493, 510, 522, 551, 582, 605, 623, 647, 672, 695, 712, 724, 745, 760</td>
<td></td>
</tr>
<tr>
<td>G-C-3. Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.</td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 308-311&lt;br&gt;Lesson(s) 47</td>
<td><strong>MAINTENANCE:</strong>&lt;br&gt;Practice 312, 313, 314, 317, 318, 319, 325, 326, 332, 342, 347, 353, 367, 371, 372, 379, 395, 400, 428, 510, 712, 760</td>
<td></td>
</tr>
<tr>
<td>G-C-4. (+) Construct a tangent line from a point outside a given circle to the circle.</td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;Lab 387-388&lt;br&gt;Lab(s) 8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Geometry Standards

<table>
<thead>
<tr>
<th>Geometry Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-C-5. Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.</td>
<td><strong>INSTRUCTION:</strong> New Concept 224-226 Lesson(s) 35</td>
<td><strong>MAINTENANCE:</strong> Practice 227, 228, 234, 235, 241, 242, 248, 249, 256, 261, 285, 293, 299, 307, 318, 319, 333, 340, 347, 353, 373, 379, 402, 411, 423, 433, 442, 450, 462, 488, 498, 509, 528, 551, 584, 604, 629, 689, 711, 752</td>
<td></td>
</tr>
<tr>
<td>G-GPE-1. Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.</td>
<td><strong>INSTRUCTION:</strong> New Concept 495-497 Lesson(s) 75</td>
<td><strong>INSTRUCTION:</strong> New Concept 640-643 Lesson(s) 91</td>
<td><strong>MAINTENANCE:</strong> Practice 497, 498, 499, 504, 505, 509, 513, 521, 523, 528, 542, 552, 616, 651, 684, 734</td>
</tr>
<tr>
<td>G-GPE-2. Derive the equation of a parabola given a focus and directrix.</td>
<td></td>
<td></td>
<td><strong>MAINTENANCE:</strong> Practice 643, 644, 645, 649, 651, 656, 664, 670, 677, 683, 694, 702, 718, 724, 737, 743, 744, 750, 755, 762, 767, 803, 812</td>
</tr>
<tr>
<td>Geometry Standards (+ = advanced; * = also a Modeling Standard)</td>
<td>Saxon Algebra 1</td>
<td>Saxon Geometry</td>
<td>Saxon Algebra 2</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>---------------</td>
<td>---------------</td>
<td>----------------</td>
</tr>
</tbody>
</table>
| G-GPE-3. (+) Derive the equations of ellipses and hyperbolas given foci and directrices. | | | **INSTRUCTION:**  
New Concept 684-687, 757-760  
Lesson(s) 98, 109  
**MAINTENANCE:**  
Practice 688, 693, 695, 713, 717, 718, 723, 730, 743, 761, 763, 767, 768, 778, 779, 783, 784, 797, 802, 811, 816, 817 |
| G-GPE-4. Use coordinates to prove simple geometric theorems algebraically. | | | **INSTRUCTION:**  
New Concept 295-298, 495-497, 600-603  
Lesson(s) 45, 75, 92  
**MAINTENANCE:**  
Saxon Algebra 1, Geometry, Algebra 2  
correlated to the  
The Common Core State Standards for Mathematics: High School

<table>
<thead>
<tr>
<th>Geometry Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>G-GPE.5.</strong> Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of line parallel or perpendicular to a given line that passes through a given point).</td>
<td><strong>INSTRUCTION:</strong> New Concept 424-427 Lesson(s) 65</td>
<td><strong>INSTRUCTION:</strong> New Concept 238-240 Lesson(s) 37</td>
<td><strong>INSTRUCTION:</strong> New Concept 100-104 Lesson(s) 15</td>
</tr>
<tr>
<td><strong>G-GPE.6.</strong> Find the point on a directed line segment between two given points that partitions the segment in a given ratio.</td>
<td><strong>INSTRUCTION:</strong> New Concept 565-566 Lesson(s) 86</td>
<td><strong>INSTRUCTION:</strong> New Concept 8-10 Lesson(s) 2</td>
<td><strong>INSTRUCTION:</strong> New Concept 642-643 Lesson(s) 91</td>
</tr>
<tr>
<td><strong>MAINTENANCE:</strong> Practice 575, 580, 581, 591, 667</td>
<td><strong>MAINTENANCE:</strong> Practice 11, 17, 18, 32, 38, 39, 44, 46, 76, 83</td>
<td><strong>MAINTENANCE:</strong> Practice 649, 762</td>
<td></td>
</tr>
<tr>
<td><strong>G-GPE.7.</strong> Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.*</td>
<td><strong>INSTRUCTION:</strong> New Concept 374-378 Lesson(s) 57</td>
<td></td>
<td><strong>INSTRUCTION:</strong> New Concept 642-643 Lesson(s) 91</td>
</tr>
</tbody>
</table>
### Geometry Standards

<table>
<thead>
<tr>
<th>Geometry Standards</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+ = advanced; * = also a Modeling Standard)</td>
<td>INSTRUCTION:</td>
<td>MAINTENANCE:</td>
<td></td>
</tr>
<tr>
<td><strong>G-GMD-2.</strong> (+) Give an informal argument using Cavalieri’s principle for the formulas for the volume of a sphere and other solid figures.</td>
<td>New Concept 524, 555</td>
<td>Practice 559, 628</td>
<td></td>
</tr>
</tbody>
</table>
### Geometry Standards

<table>
<thead>
<tr>
<th>Geometry Standards</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+ = advanced; * = also a Modeling Standard)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**G-GMD-3. Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.***

**INSTRUCTION:**
- New Concept: 414-415, 465-467, 508, 525-526, 643
- Lesson(s): 62, 70, 77, 80, 99

**MAINTENANCE:**

**G-GMD-4. Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.**

**INSTRUCTION:**
- New Concept: 553-555, 726-728
- Lesson(s): 85, 113

**MAINTENANCE:**
- Practice: 557, 558, 559, 563, 564, 571, 572, 576, 577, 583, 598, 599, 611, 622, 628, 639, 661, 708, 728, 729, 730, 733, 734, 735, 739, 741, 746, 752, 759, 764
<table>
<thead>
<tr>
<th>Geometry Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-MG-1. Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).*</td>
<td></td>
<td>INSTRUCTION:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>New Concept 80-81, 92-93, 117-118, 311, 339-340, 357, 432-433, 460-461, 508, 526, 688</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lesson(s) 13, 15, 19, 47, 51, 54, 65, 69, 77, 80, 106</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MAINTENANCE:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Practice 88, 106, 119, 136, 143, 149, 331, 358, 380, 510, 536, 546, 557, 564, 689</td>
<td></td>
</tr>
<tr>
<td>G-MG-2. Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).*</td>
<td>This standard is outside the scope of the Saxon AGA series.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G-MG-3. Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).*</td>
<td></td>
<td>INSTRUCTION:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lesson(s) 22, 34, 40, 52, 53, 56, 59, 61, 62, 70, 110</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MAINTENANCE:</td>
<td></td>
</tr>
</tbody>
</table>
### Statistics and Probability Standards

<table>
<thead>
<tr>
<th>Statistics and Probability Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| S-ID-1. Represent data with plots on the real number line (dot plots, histograms, and box plots).* | **INSTRUCTION:**  
New Concept 345-348, 406-409, 466-471  
Lesson(s) 54, 62, 71  
Lab(s) 343-344, 404-405  
Lab(s) 4, 6  
**MAINTENANCE:**  
Skills Bank 797  
Skills Bank Lesson(s) 21 | **INSTRUCTION:**  
New Concept 183-184, 325-328  
Lesson(s) 25, 45  
Lab 178-179  
Lab(s) 6 | **MAINTENANCE:**  
Practice 220, 329, 335, 341, 346, 352, 358, 367, 368, 377, 390, 396, 404, 418, 425, 432, 439, 440, 453, 460, 818, 830 |
| S-ID-2. Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.* | **INSTRUCTION:**  
Skills Bank 785-786  
Skills Bank Lesson(s) 11 | **INSTRUCTION:**  
New Concept 180-183, 325-328  
Lesson(s) 25, 45  
Investigation 502-505  
Investigation 7  
Lab 178-179  
Lab(s) 6 | **MAINTENANCE:**  
### Statistics and Probability Standards

<table>
<thead>
<tr>
<th>(+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| S-ID-3. Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).* | **INSTRUCTION:**  
New Concept 300-301  
Lesson(s) 48  
**MAINTENANCE:**  
Practice 302, 303, 312, 313, 319, 326, 327, 333, 341, 349, 358, 366, 373, 381, 402, 415, 421, 422, 652, 746 | | **INSTRUCTION:**  
New Concept 180-183, 325-328  
Lesson(s) 25, 45  
Investigation 502-505  
Investigation 7  
Lab 178-179  
Lab(s) 6  
**MAINTENANCE:**  
<table>
<thead>
<tr>
<th>Statistics and Probability Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| S-ID-4. Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.* | | | **INSTRUCTION:**
New Concept 180-183, 325-328
Lesson(s) 25, 45
Investigation 502-505
Investigation 7
Lab 519-520
Lab 11
**MAINTENANCE:**
| S-ID-5. Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.* | **INSTRUCTION:**
New Concept 523-526
Lesson(s) 80
**MAINTENANCE:**
Practice 302, 303, 312, 313, 319, 326, 327, 333, 341, 349, 358 | **INSTRUCTION:**
New Concept 326-328
Lesson(s) 45
**MAINTENANCE:**
Practice 329, 335, 341, 352, 358, 368, 377, 390, 396, 404, 418, 425, 432, 439, 440, 453, 460, 818, 830 |
### Statistics and Probability Standards

<table>
<thead>
<tr>
<th>(+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
</table>
| S-ID-6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.* | a) **INSTRUCTION:**
New Concept 466-471
Lesson(s) 71
Lab 464-465
Lab(s) 7
**MAINTENANCE:**
Practice 471, 472, 473, 479, 484, 485, 492, 498, 504, 509, 516, 522, 528, 535, 554, 567, 573 | | | a) **INSTRUCTION:**
New Concept 325-328, 806-810
Lesson(s) 45, 116
Lab 323-324
Lab(s) 8
**MAINTENANCE:**
Practice 329, 335, 341, 352, 358, 368, 377, 390, 396, 404, 418, 425, 432, 439, 440, 453, 460, 810, 812, 816, 818, 822, 829, 830 | |
| | b) **INSTRUCTION:**
New Concept 466-471
Lesson(s) 71
Lab 464-465
Lab(s) 7
**MAINTENANCE:**
Practice 471, 472, 473, 479, 484, 485, 492, 498, 504, 509, 516, 522, 528, 535, 554, 567, 573 | | | b) **INSTRUCTION:**
New Concept 325-328
Lesson(s) 45
**MAINTENANCE:**
Practice 329, 335, 341, 352, 358, 368, 377, 390, 396, 404, 418, 425, 432, 439, 440, 453, 460, 810, 818, 830 |
| | c) **INSTRUCTION:**
New Concept 466-471
Lesson(s) 71
Lab 464-465
Lab(s) 7
**MAINTENANCE:**
Practice 471, 472, 473, 479, 484, 485, 492, 498, 504, 509, 516, 522, | | | c) **INSTRUCTION:**
New Concept 325-328
Lesson(s) 45
**MAINTENANCE:**
Practice 329, 335, 341, 352, 358, 368, 377, 390, 396, 404, 418, 425, 432, 439, 440, 453, 460 |
<table>
<thead>
<tr>
<th>Statistics and Probability Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S-ID-7. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.</strong></td>
<td><strong>INSTRUCTION:</strong> New Concept 220, 256-259, 466-471 Lesson(s) 35, 41, 71 Lab 464-465 Lab(s) 7 <strong>MAINTENANCE:</strong> Practice 228, 260, 268-269, 274, 281, 287, 292, 298, 471, 472, 473, 479, 484, 485, 492, 498, 504, 509, 516, 522, 528, 535, 554, 567, 573</td>
<td><strong>INSTRUCTION:</strong> New Concept 98-99 Lesson(s) 16 <strong>MAINTENANCE:</strong> Practice 150, 162, 402</td>
<td><strong>INSTRUCTION:</strong> New Concept 326-328 Lesson(s) 45 <strong>MAINTENANCE:</strong> Practice 329, 335, 341, 352, 358, 368, 377, 390, 396, 404, 418, 425, 432, 439, 440, 453, 460, 818, 830</td>
</tr>
<tr>
<td><strong>S-ID-8. Compute (using technology) and interpret the correlation coefficient of a linear fit.</strong></td>
<td><strong>INSTRUCTION:</strong> New Concept 466-471 Lesson(s) 71 Lab 464-465 Lab(s) 7 <strong>MAINTENANCE:</strong> Practice 471, 472, 473, 479, 484, 485, 492, 498, 504, 509, 516, 522, 528, 535, 554, 567, 573</td>
<td></td>
<td><strong>INSTRUCTION:</strong> Lab 323-324 Lab(s) 8</td>
</tr>
<tr>
<td><strong>S-ID-9. Distinguish between correlation and causation.</strong></td>
<td></td>
<td></td>
<td><strong>INSTRUCTION:</strong> New Concept 821 Lesson(s) 118 <strong>MAINTENANCE:</strong> Practice 822, 823, 829, 830</td>
</tr>
<tr>
<td><strong>S-IC-1. Understand statistics as a process for making inferences about population parameters based on a random sample from that population.</strong></td>
<td><strong>INSTRUCTION:</strong> Investigation 187-189 Investigation 3 <strong>MAINTENANCE:</strong> Practice 222, 242</td>
<td></td>
<td><strong>INSTRUCTION:</strong> New Concept 819-821 Lesson(s) 118 <strong>MAINTENANCE:</strong> Practice 822, 823, 829, 830</td>
</tr>
<tr>
<td>Statistics and Probability Standards (+ = advanced; * = also a Modeling Standard)</td>
<td>Saxon Algebra 1</td>
<td>Saxon Geometry</td>
<td>Saxon Algebra 2</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>S-IC-3. Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.*</td>
<td>INSTRUCTION: Investigation 187-189 Investigation 3</td>
<td></td>
<td>INSTRUCTION: New Concept 521-523, 819-821 Lesson(s) 73, 118</td>
</tr>
<tr>
<td>S-IC-4. Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.*</td>
<td></td>
<td></td>
<td>INSTRUCTION: New Concept 521-523, 819-821 Lesson(s) 73, 118</td>
</tr>
<tr>
<td>Statistics and Probability Standards (+ = advanced; * = also a Modeling Standard)</td>
<td>Saxon Algebra 1</td>
<td>Saxon Geometry</td>
<td>Saxon Algebra 2</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>S-IC-5.</strong> Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.*</td>
<td><strong>INSTRUCTION:</strong></td>
<td></td>
<td><strong>INSTRUCTION:</strong></td>
</tr>
<tr>
<td></td>
<td>Investigation 187-189</td>
<td></td>
<td>New Concept 521-523</td>
</tr>
<tr>
<td></td>
<td>Investigation 3</td>
<td></td>
<td>Lesson(s) 73</td>
</tr>
<tr>
<td></td>
<td><strong>MAINTENANCE:</strong></td>
<td></td>
<td><strong>MAINTENANCE:</strong></td>
</tr>
<tr>
<td><strong>S-IC-6.</strong> Evaluate reports based on data.*</td>
<td><strong>INSTRUCTION:</strong></td>
<td></td>
<td><strong>INSTRUCTION:</strong></td>
</tr>
<tr>
<td></td>
<td>New Concept 127-130, 159-161, 299-301</td>
<td></td>
<td>New Concept 521-523, 819-821</td>
</tr>
<tr>
<td></td>
<td>Lesson(s) 22, 27, 48</td>
<td></td>
<td>Lesson(s) 73, 118</td>
</tr>
<tr>
<td></td>
<td>Investigation 187-189</td>
<td></td>
<td><strong>MAINTENANCE:</strong></td>
</tr>
<tr>
<td></td>
<td><strong>MAINTENANCE:</strong></td>
<td></td>
<td>Practice 822, 823, 829, 830</td>
</tr>
<tr>
<td>Statistics and Probability Standards (+ = advanced; * = also a Modeling Standard)</td>
<td>Saxon Algebra 1</td>
<td>Saxon Geometry</td>
<td>Saxon Algebra 2</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>S-CP-1. Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events (“or,” “and,” “not”).*</td>
<td>New Concept 204-208 Lesson(s) 33</td>
<td>New Concept 204-208 Lesson(s) 33</td>
<td>New Concept 427-429 Lesson(s) 60</td>
</tr>
<tr>
<td><strong>INSTRUCTION:</strong></td>
<td><strong>MAINTENANCE:</strong></td>
<td><strong>MAINTENANCE:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>INSTRUCTION:</strong></td>
<td><strong>Practice</strong> 209, 215, 222, 228, 229, 234, 2241, 248, 253, 261, 267, 273, 287, 291, 302, 317, 318, 459, 702</td>
<td><strong>Practice</strong> 430, 431, 439, 445, 453, 461, 473, 481, 494, 500, 533, 545, 551, 556, 561, 577</td>
<td></td>
</tr>
<tr>
<td>S-CP-2. Understand that two events $A$ and $B$ are independent if the probability of $A$ and $B$ occurring together is the product of their probabilities, and use this characterization to determine if they are independent.*</td>
<td>New Concept 204-208 Lesson(s) 33</td>
<td>New Concept 204-208 Lesson(s) 33</td>
<td>New Concept 393-395 Lesson(s) 55</td>
</tr>
<tr>
<td><strong>INSTRUCTION:</strong></td>
<td><strong>MAINTENANCE:</strong></td>
<td><strong>MAINTENANCE:</strong></td>
<td></td>
</tr>
</tbody>
</table>
### Statistics and Probability Standards

(+ = advanced; * = also a Modeling Standard)

<table>
<thead>
<tr>
<th>Standards</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-CP-3. Understand the conditional probability of $A$ given $B$ as $P(A \text{ and } B)/P(B)$, and interpret independence of $A$ and $B$ as saying that the conditional probability of $A$ given $B$ is the same as the probability of $A$, and the conditional probability of $B$ given $A$ is the same as the probability of $B$.</td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 204-208&lt;br&gt;Lesson(s) 33</td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 393-395, 484-486&lt;br&gt;Lesson(s) 55, 68</td>
<td><strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 247-248</td>
</tr>
</tbody>
</table>

<p>| S-CP-4. Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. | <strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 427-430, 483-486&lt;br&gt;Lesson(s) 60, 68 | <strong>INSTRUCTION:</strong>&lt;br&gt;New Concept 427-430, 483-486&lt;br&gt;Lesson(s) 60, 68 |</p>
<table>
<thead>
<tr>
<th>Statistics and Probability Standards (+ = advanced; *= also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-CP-5. Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. *</td>
<td><strong>INSTRUCTION:</strong> New Concept 204-208 Lesson(s) 33</td>
<td></td>
<td><strong>INSTRUCTION:</strong> New Concept 393-395, 484-486 Lesson(s) 55, 68</td>
</tr>
<tr>
<td>S-CP-6. Find the conditional probability of $A$ given $B$ as the fraction of $B$’s outcomes that also belong to $A$, and interpret the answer in terms of the model. *</td>
<td><strong>INSTRUCTION:</strong> New Concept 204-208 Lesson(s) 33</td>
<td></td>
<td><strong>INSTRUCTION:</strong> New Concept 483-486 Lesson(s) 68</td>
</tr>
<tr>
<td>Statistics and Probability Standards (+ = advanced; * = also a Modeling Standard)</td>
<td>Saxon Algebra 1</td>
<td>Saxon Geometry</td>
<td>Saxon Algebra 2</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>S-CP-7.</strong> Apply the Addition Rule, ( P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B) ), and interpret the answer in terms of the model.*</td>
<td>INSTRUCTION: New Concept 427-430 Lesson(s) 60 MAINTENANCE: Practice 430, 431, 439, 440, 445, 453, 460, 473, 475, 481, 482, 487, 494, 500, 501, 533, 545, 551, 556, 561, 569, 577, 584, 589, 597, 609, 614</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>S-CP-8.</strong> (+) Apply the general Multiplication Rule in a uniform probability model, ( P(A \text{ and } B) = P(A)P(B</td>
<td>A) = P(B)P(A</td>
<td>B) ), and interpret the answer in terms of the model.*</td>
<td>INSTRUCTION: New Concept 204-208 Lesson(s) 33 MAINTENANCE: Practice 209, 215, 222, 228, 229, 234, 241, 248, 253, 261, 267, 273, 287, 291, 302, 317, 318, 459, 702</td>
</tr>
<tr>
<td><strong>S-CP-9.</strong> (+) Use permutations and combinations to compute probabilities of compound events and solve problems.*</td>
<td>INSTRUCTION: New Concept 754-757, 804-806 Lesson(s) 111, 118 MAINTENANCE: Practice 758, 766, 767, 771, 773, 781, 786, 795, 802, 806, 807, 815, 816, 821, 823</td>
<td>INSTRUCTION: New Concept 392-393, 395 Lesson(s) 55 MAINTENANCE: Practice 396, 397, 398, 404, 405, 411, 418, 426, 432, 439, 4445, 453, 460, 466, 474, 482, 487, 492, 500, 527, 539, 545, 561, 603, 633, 644, 802</td>
<td></td>
</tr>
<tr>
<td>Statistics and Probability Standards (+ = advanced; * = also a Modeling Standard)</td>
<td>Saxon Algebra 1</td>
<td>Saxon Geometry</td>
<td>Saxon Algebra 2</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>S-MD-1. (+) Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions.*</td>
<td>This standard is outside the scope of the Saxon AGA series.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| S-MD-2. (+) Calculate the expected value of a random variable; interpret it as the mean of the probability distribution.* |  | INSTRUCTION:  
New Concept 565-568  
Lesson(s) 80  
MAINTENANCE:  
Practice 569, 571, 577, 579, 584, 596, 604, 610, 616, 622, 628, 634, 645, 649, 657, 662, 669, 677, 683, 694, 701, 712, 716, 730, 744, 779 |  |  |
| S-MD-3. (+) Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value. * |  | INSTRUCTION:  
New Concept 393-395  
Lesson(s) 55  
MAINTENANCE:  
Practice 396, 397, 398, 404, 405, 411, 418, 426, 432, 439, 445, 454, 460, 466, 474, 482, 487, 492, 500, 527, 539, 545, 561, 603, 633, 644, 802 |  |  |
| S-MD-4. (+) Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value. * |  |  | INSTRUCTION:  
New Concept 393  
Lesson(s) 55  
MAINTENANCE:  
Practice 395 |  |  |
Saxon Algebra 1, Geometry, Algebra 2

correlated to the
The Common Core State Standards for Mathematics: High School

<table>
<thead>
<tr>
<th>Statistics and Probability Standards (+ = advanced; * = also a Modeling Standard)</th>
<th>Saxon Algebra 1</th>
<th>Saxon Geometry</th>
<th>Saxon Algebra 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-MD-5. (+) Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values.*</td>
<td>b) <strong>INSTRUCTION:</strong> Skills Bank Lesson(s) 12</td>
<td></td>
<td>a) <strong>INSTRUCTION:</strong> New Concept 485 Lesson(s) 68</td>
</tr>
<tr>
<td>a. Find the expected payoff for a game of chance.</td>
<td></td>
<td></td>
<td>b) <strong>INSTRUCTION:</strong> New Concept 339-340 Lesson(s) 47</td>
</tr>
<tr>
<td>b. Evaluate and compare strategies on the basis of expected values.</td>
<td></td>
<td></td>
<td><strong>MAINTENANCE:</strong> Practice 347</td>
</tr>
<tr>
<td>S-MD-6. (+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).*</td>
<td><strong>INSTRUCTION:</strong> Lab 52 Lab(s) 1 Investigation 53-55 Investigation 1</td>
<td></td>
<td><strong>INSTRUCTION:</strong> New Concept 392-395 Lesson(s) 55</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>MAINTENANCE:</strong> Practice 396, 397, 398, 404, 405, 411, 418, 426, 432, 439, 4445, 454, 460, 466, 474, 482, 487, 492, 500, 527, 539, 545, 561, 603, 633, 644, 802</td>
</tr>
<tr>
<td>Statistics and Probability Standards (+ = advanced; * = also a Modeling Standard)</td>
<td>Saxon Algebra 1</td>
<td>Saxon Geometry</td>
<td>Saxon Algebra 2</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>S-MD.7. (+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).*</td>
<td><strong>INSTRUCTION:</strong> Investigation 53-55 Investigation 1</td>
<td><strong>INSTRUCTION:</strong> Investigation 403-405 Investigation 6 Skills Bank 786-787 Skills Bank Lesson(s) 12 <strong>MAINTENANCE:</strong> Practice 409, 411, 415, 416, 421, 427, 440, 449, 454, 462, 468, 476, 487, 502, 528, 540, 562, 604, 617, 641, 667, 694, 729</td>
<td><strong>INSTRUCTION:</strong> New Concept 485-486 Lesson(s) 68 <strong>MAINTENANCE:</strong> Practice 511, 538</td>
</tr>
</tbody>
</table>