**[C]** Communication **[PS]** Problem Solving **[CN]** Connections **[R]** Reasoning

**[ME]** Mental Mathematics **[V]** Visualization and Estimation **[T]** Technology

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| **Number Strand** | |
| **Student Learning Outcome** | **Math Makes Sense** |
| **N7.1**  Determine and explain why a number is divisible by 2, 3, 4, 5, 6, 8, 9 or 10, and why a number cannot be divided by 0.  [C, R] | Unit 1, Lesson 1.1, pp. 6–9  Unit 1, Lesson 1.2, pp. 10–13 |
| **N7.2**  Demonstrate an understanding of the addition, subtraction, multiplication and division of decimals (for more than 1-digit divisors or 2-digit multipliers, the use of technology is expected) to solve problems.  [ME, PS, T] | Unit 3, Lesson 3.3, pp. 96–99  Unit 3, Lesson 3.4, pp. 100–103  Unit 3, Lesson 3.5, pp. 104–107  Unit 3, Lesson 3.6, pp. 108, 109  Unit 3, Unit Problem, pp. 124, 125 |
| **N7.3**  Demonstrate an understanding of the  relationship between positive repeating decimals and positive fractions, and positive terminating decimals and positive fractions.  [C, CN, R, T] | Unit 3, Lesson 3.1, pp. 86–90 |
| **N7.3**  Compare and order positive fractions, positive decimals (to thousandths) and whole numbers by using:   * benchmarks * place value * equivalent fractions and/or decimals.   [CN, R, V] | Unit 3, Lesson 3.2, pp. 91–95 |
| **N7.4**  Solve problems involving percents from 1% to 100%.  [C, CN, PS, R, T] | Unit 3, Lesson 3.7, pp. 111–113  Unit 3, Lesson 3.8, pp. 114–116  Unit 3, Unit Problem, pp. 124, 125 |
| **N7.5**  Demonstrate an understanding of adding and subtracting positive fractions and mixed numbers, with like and unlike denominators, concretely, pictorially and symbolically  (limited to positive sums and differences).  [C, CN, ME, PS, R, V] | Unit 5, Lesson 5.1, pp. 178–180  Unit 5, Lesson 5.2, pp. 181–185  Unit 5, Lesson 5.3, pp. 186–189  Unit 5, Lesson 5.4, pp. 191–194  Unit 5, Lesson 5.5, pp. 195–198  Unit 5, Lesson 5.6, pp. 199–203  Unit 5, Lesson 5.7, pp. 204–208  Unit 5, Unit Problem, pp. 216, 217 |
| **N7.6**  Demonstrate an understanding of addition and subtraction of integers, concretely, pictorially and symbolically.  [C, CN, PS, R, V] | Unit 2, Lesson 2.1, pp. 52–55  Unit 2, Lesson 2.2, pp. 56–59  Unit 2, Lesson 2.3, pp. 60–64  Unit 2, Lesson 2.4, pp. 66–70  Unit 2, Lesson 2.5, pp. 71–75  Unit 2, Unit Problem, pp. 82, 83 |

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| **Patterns and Relation Strand** | |
| **Student Learning Outcome** | **Math Makes Sense** |
| **P7.1**  Demonstrate an understanding of oral and written patterns and their equivalent linear relations.  [C, CN, R] | Unit 1, Lesson 1.3, pp. 16–19  Unit 1, Lesson 1.4, pp. 21–24  Unit 1, Unit Problem, pp. 48, 49 |
| **P7.1**  Create a table of values from a linear relation, graph the table of values, and analyze the graph to draw conclusions and solve problems.  [C, CN, R, V] | Unit 1, Lesson 1.5, pp. 25–28  Unit 1, Lesson 1.6, pp. 30–34  Unit 1, Unit Problem, pp. 48, 49 |
| **P7.2**  Explain the difference between an expression and an equation.  [C, CN] | Unit 1, Lesson 1.7, pp. 35–37  Unit 6, Lesson 6.1, pp. 220–224  Unit 6, Unit Problem, pp. 252, 253 |
| **P7.2**  Evaluate an expression given the value of the variable(s).  [CN, R] | Unit 1, Lesson 1.3, pp. 16–19  Unit 1, Lesson 1.4, pp. 21–24  Unit 1, Unit Problem, pp. 48, 49  Unit 6, Unit Problem, pp. 252, 253 |
| **P7.3**  Demonstrate an understanding of  preservation of equality by:   * modelling preservation of equality, concretely, pictorially and symbolically * applying preservation of equality to solve equations.   [C, CN, PS, R, V] | Unit 6, Lesson 6.2, pp. 226–230  Unit 6, Lesson 6.3, pp. 231–235  Unit 6, Lesson 6.4, pp. 237–239  Unit 6, Lesson 6.5, pp. 240–244  Unit 6, Unit Problem, pp. 252, 253 |
| **P7.3**  Model and solve problems that can be represented by linear equations of the  form:   * *ax + b = c* * *ax = b* * = b, a ≠ 0   concretely, pictorially and symbolically, where *a*, *b* and *c* are whole numbers.  [CN, PS, R, V] | Unit 1, Lesson 1.8, pp. 38–42  Unit 1, Unit Problem, pp. 48, 49  Unit 6, Lesson 6.1, pp. 220–224  Unit 6, Lesson 6.2, pp. 226–230  Unit 6, Lesson 6.4, pp. 237–239  Unit 6, Lesson 6.5, pp. 240–244  Unit 6, Unit Problem, pp. 252, 253 |
| **P7.4**  Model and solve problems that can be represented by one-step linear equations of the form *x* + *a* = *b*, concretely, pictorially and symbolically, where *a* and *b* are integers.  [CN, PS, R, V] | Unit 6, Lesson 6.3, pp. 231–235  Unit 6, Lesson 6.4, pp. 237–239  Unit 6, Lesson 6.5, pp. 240–244 |

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| **Shape and Space Strand** | |
| **Student Learning Outcome** | **Math Makes Sense** |
| **SS7.1**  Demonstrate an understanding of circles by:   * describing the relationships among radius, diameter and circumference of circles * relating circumference to pi * determining the sum of the central angles * constructing circles with a given radius or diameter * solving problems involving the radii, diameters and circumferences of circles   [C, CN, R, V] | Unit 4, Lesson 4.1, pp. 130–132  Unit 4, Lesson 4.2, pp. 133–137  Unit 4, Unit Problem, pp. 172, 173 |
| **SS7.2**  Develop and apply a formula for determining the area of:   * triangles * parallelograms * circles   [CN, PS, R, V] | Unit 4, Lesson 4.3, pp. 139–142  Unit 4, Lesson 4.4, pp. 143–147  Unit 4, Lesson 4.5, pp. 148–152  Unit 4, Game, p. 153  Unit 4, Unit Problem, pp. 172, 173 |
| **SS7.3**  Perform geometric constructions, including:   * perpendicular line segments * parallel line segments * perpendicular bisectors * angle bisectors   [CN, R, V] | Unit 8, Lesson 8.1, pp. 300–302  Unit 8, Lesson 8.2, pp. 303–305  Unit 8, Lesson 8.3, pp. 306–309  Unit 8, Lesson 8.4, pp. 310–313  Unit 8, Unit Problem, pp. 338, 339 |
| **SS7.4**  Identify and plot points in the four quadrants of a Cartesian plane using integral ordered pairs.  [C, CN, V] | Unit 8, Lesson 8.5, pp. 315–319  Unit 8, Lesson 8.6, pp. 320–324  Unit 8, Lesson 8.7, pp. 325–329  Unit 8, Unit Problem, pp. 338, 339 |
| **SS7.5**  Perform and describe transformations (translations, rotations or reflections) of a 2-D shape in all four quadrants of a Cartesian plane (limited to integral number vertices).  [C, CN, PS, T, V] | Unit 8, Lesson 8.6, pp. 320–324  Unit 8, Lesson 8.7, pp. 325–329  Unit 8, Technology Lesson, pp. 330, 331  Unit 8, Unit Problem, pp. 338, 339 |

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| **Statistics and Probability Strand** | |
| **Student Learning Outcome** | **Math Makes Sense** |
| **SP7.1**  Demonstrate an understanding of central  tendency and range by:   * determining the measures of central tendency (mean, median, mode) and range * determining the most appropriate measures of central tendency to report findings   [C, PS, R, T] | Unit 7, Lesson 7.1, pp. 258–261  Unit 7, Lesson 7.2, pp. 262–266  Unit 7, Lesson 7.4, pp. 271–275  Unit 7, Technology Lesson, pp. 276, 277  Unit 7, Unit Problem, pp. 296, 297 |
| **SP7.1**  Determine the effect on the mean, median and mode when an outlier is included in a data set.  [C, CN, PS, R] | Unit 7, Lesson 7.3, pp. 267–270  Unit 7, Technology Lesson, pp. 276, 277 |
| **SP7.2**  Construct, label and interpret circle graphs to solve problems.  [C, CN, PS, R, T, V] | Unit 4, Lesson 4.6, pp. 156–160  Unit 4, Lesson 4.7, pp. 161–164  Unit 4, Technology Lesson, pp. 165, 166 |
| **SP7.3**  Express probabilities as ratios, fractions and percents.  [C, CN, R, T, V] | Unit 7, Lesson 7.5, pp. 279–283  Unit 7, Game, p. 289  Unit 7, Unit Problem, pp. 296, 297 |
| **SP7.3**  Identify the sample space (where the combined sample space has 36 or fewer  elements) for a probability experiment involving two independent events.  [C, ME, PS] | Unit 7, Lesson 7.6, pp. 284–288  Unit 7, Game, p. 289  Unit 7, Unit Problem, pp. 296, 297 |
| **SP7.3**  Conduct a probability experiment to compare the theoretical probability (determined using a tree diagram, table or another graphic organizer) and experimental probability of two independent events.  [C, PS, R, T] | Unit 7, Lesson 7.6, pp. 284–288  Unit 7, Unit Problem, pp. 296, 297 |