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

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

|  |
| --- |
| **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. 6–9Unit 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. 96–99Unit 3, Lesson 3.4, pp. 100–103Unit 3, Lesson 3.5, pp. 104–107Unit 3, Lesson 3.6, pp. 108, 109Unit 3, Unit Problem, pp. 124, 125 |
| **N7.3**Demonstrate an understanding of therelationship 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. 111–113Unit 3, Lesson 3.8, pp. 114–116Unit 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. 178–180Unit 5, Lesson 5.2, pp. 181–185Unit 5, Lesson 5.3, pp. 186–189Unit 5, Lesson 5.4, pp. 191–194Unit 5, Lesson 5.5, pp. 195–198Unit 5, Lesson 5.6, pp. 199–203Unit 5, Lesson 5.7, pp. 204–208Unit 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. 52–55Unit 2, Lesson 2.2, pp. 56–59Unit 2, Lesson 2.3, pp. 60–64Unit 2, Lesson 2.4, pp. 66–70Unit 2, Lesson 2.5, pp. 71–75Unit 2, Unit Problem, pp. 82, 83 |

|  |
| --- |
|  **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. 16–19Unit 1, Lesson 1.4, pp. 21–24Unit 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. 25–28Unit 1, Lesson 1.6, pp. 30–34Unit 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. 35–37Unit 6, Lesson 6.1, pp. 220–224Unit 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. 16–19Unit 1, Lesson 1.4, pp. 21–24Unit 1, Unit Problem, pp. 48, 49Unit 6, Unit Problem, pp. 252, 253 |
| **P7.3**Demonstrate an understanding ofpreservation 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. 226–230Unit 6, Lesson 6.3, pp. 231–235Unit 6, Lesson 6.4, pp. 237–239Unit 6, Lesson 6.5, pp. 240–244Unit 6, Unit Problem, pp. 252, 253 |
| **P7.3**Model and solve problems that can be represented by linear equations of theform:* *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. 38–42Unit 1, Unit Problem, pp. 48, 49Unit 6, Lesson 6.1, pp. 220–224Unit 6, Lesson 6.2, pp. 226–230Unit 6, Lesson 6.4, pp. 237–239Unit 6, Lesson 6.5, pp. 240–244Unit 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. 231–235Unit 6, Lesson 6.4, pp. 237–239Unit 6, Lesson 6.5, pp. 240–244 |

|  |
| --- |
| **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. 130–132Unit 4, Lesson 4.2, pp. 133–137Unit 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. 139–142Unit 4, Lesson 4.4, pp. 143–147Unit 4, Lesson 4.5, pp. 148–152Unit 4, Game, p. 153Unit 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. 300–302Unit 8, Lesson 8.2, pp. 303–305Unit 8, Lesson 8.3, pp. 306–309Unit 8, Lesson 8.4, pp. 310–313Unit 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. 315–319Unit 8, Lesson 8.6, pp. 320–324Unit 8, Lesson 8.7, pp. 325–329Unit 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. 320–324Unit 8, Lesson 8.7, pp. 325–329Unit 8, Technology Lesson, pp. 330, 331Unit 8, Unit Problem, pp. 338, 339 |

|  |
| --- |
| **Statistics and Probability Strand** |
| **Student Learning Outcome**  | **Math Makes Sense**  |
| **SP7.1**Demonstrate an understanding of centraltendency 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. 258–261Unit 7, Lesson 7.2, pp. 262–266Unit 7, Lesson 7.4, pp. 271–275Unit 7, Technology Lesson, pp. 276, 277Unit 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. 267–270Unit 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. 156–160Unit 4, Lesson 4.7, pp. 161–164Unit 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. 279–283Unit 7, Game, p. 289Unit 7, Unit Problem, pp. 296, 297 |
| **SP7.3**Identify the sample space (where the combined sample space has 36 or fewerelements) for a probability experiment involving two independent events.[C, ME, PS] | Unit 7, Lesson 7.6, pp. 284–288Unit 7, Game, p. 289Unit 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. 284–288Unit 7, Unit Problem, pp. 296, 297 |