### NUMBER

**General Outcome**
Develop number sense.

7.N.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]

7.N.2. Demonstrate an understanding of the addition, subtraction, multiplication, and division of decimals to solve problems (for more than one-digit divisors or 2-digit multipliers, technology could be used).  
[ME, PS, T]

[C, CN, R, T]

7.N.4. Demonstrate an understanding of adding and subtracting positive and unlike denominators, concretely, pictorially, and symbolically (limited to integral vertices).  
[C, CN, ME, PS, R, T]

7.N.5. Demonstrate an understanding of the relationship between repeating decimals and fractions, and terminating decimals and fractions.  
[C, CN, R, T]

7.N.6. Demonstrate an understanding of order and patterns, and integers by using benchmarks, place value, equivalent fractions and/or decimals, and integers.  
[CN, R, V]

7.N.7. Compare and order fractions, decimals (to thousandths), and integers by using benchmarks, place value, equivalent fractions and/or decimals.  
[CN, R, V]

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### PATTERNS AND RELATIONS

**General Outcome**
Use patterns to describe the world and solve problems.

7.PR.1. Demonstrate an understanding of oral and written patterns and their corresponding relations.  
[C, CN, R]

7.PR.2. Construct a table of values from a relation, graph the table of values, and analyze the graph to draw conclusions and solve problems.  
[C, CN, R, V]

7.PR.3. Demonstrate an understanding of preservation of equality by  
- modeling preservation of equality, concretely, pictorially, and symbolically  
- applying preservation of equality to solve equations  
[C, CN, PS, R, V]

7.PR.4. Explain the difference between an expression and an equation.  
[C, CN]

7.PR.5. Evaluate an expression given the value of the variable(s).  
[CN, R]

7.PR.6. Model and solve problems that can be represented by one-step linear equations of the form \( ax + b = c \) concretely, pictorially, and symbolically, where \( a \) and \( b \) are integers.  
[CN, PS, R, V]

7.PR.7. Model and solve problems that can be represented by linear equations of the form \( ax + b = c \), concretely, pictorially, and symbolically, where \( a \), \( b \), and \( c \) are whole numbers.  
[CN, PS, R, V]

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### SHAPE AND SPACE

**General Outcome**
Represent algebraic expressions in multiple ways.

7.SS.1. Demonstrate an understanding of circles by  
- describing the relationships among radius, diameter, and circumference of circles  
- relating circumference to \( \pi \) (\( c \))  
- 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]

7.SS.2. Develop and apply a formula for determining the area of  
- triangles  
- parallelograms  
- circles  
[CN, PS, R, V]

7.SS.3. Perform geometric constructions, including  
- perpendicular line segments  
- parallel line segments  
- perpendicular bisectors  
- angle bisectors  
[C, CN, R, V]

7.SS.4. Identify and plot points in the four quadrants of a Cartesian plane using ordered pairs.  
[C, CN, V]

7.SS.5. Perform and describe transformations of a 2-D shape in all four quadrants of a Cartesian plane (limited to integral vertices).  
[C, CN, PS, T, V]

### STATISTICS AND PROBABILITY

**General Outcome**
Collect, display, and analyze data to solve problems.

7.SP.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]

7.SP.2. Determine the effect on the mean, median, and mode when an outlier is included in a data set.  
[C, CN, PS, R]

7.SP.3. Construct, label, and interpret circle graphs to solve problems.  
[C, CN, PS, R, T, V]

7.SP.4. Express probabilities as ratios, fractions, and percents.  
[C, CN, R, T, V]

7.SP.5. 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]

7.SP.6. 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]

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