

Name:

Teacher:

Period:

**MATH 8/9**  
**LEARNING OUTCOME TRACKING SHEET**  
**2015-2016**

Rational Numbers

<b>Learning Outcomes</b>	<b>Task</b>	<b>Assessment</b>
Compare and order rational numbers. (Math 9)		
Solve problems that involve arithmetic operations on rational numbers. (Math 9)		
Demonstrate an understanding of perfect squares and square roots, symbolically and pictorially. (Math 8 and 9)		
Determine an approximate square root of positive rational numbers that are non-perfect squares. (Math 8 and 9)		
Demonstrate an understanding of multiplication and division of integers, symbolically and pictorially. (Math 8)		
Demonstrate an understanding of multiplication and division of fractions, symbolically and pictorially. (Math 8)		
Explain and apply the order of operations. (Math 8 and 9)		

Powers and Exponents

<b>Learning Outcomes</b>	<b>Task</b>	<b>Assessment</b>
Develop and apply the Pythagorean theorem to solve problems. (Math 8 and 9)		
Demonstrate an understanding of the exponent laws. (Math 9)		
Solve problems involving powers. (Math 9)		
Demonstrate an understanding of operations on powers. (Math 9)		

## Polynomials

<b>Learning Outcomes</b>	<b>Task</b>	<b>Assessment</b>
Demonstrate an understanding of polynomials. (Math 9)		
Model, record, and explain the operations of addition and subtraction of polynomial expressions. (Math 9)		
Model, record, and explain the operations of multiplication and division of polynomial expressions by monomials. (Math 9)		

## Linear Relations

<b>Learning Outcomes</b>	<b>Task</b>	<b>Assessment</b>
Generalize a pattern arising from a problem-solving context using linear equations and verify by substitution. (Math 9)		
Graph linear relations. (Math 8 and 9)		
Analyse a graph of linear relations. (Math 8 and 9)		

## Linear Equations and Inequalities

<b>Learning Outcomes</b>	<b>Task</b>	<b>Assessment</b>
Model and solve problems using linear equations of the form $ax = b$ and $x/a = b$ , $a \neq 0$ . (Math 8 and 9)		
Model and solve problems using linear equations of the form $ax + b = c$ and $x/a + b = c$ , $a \neq 0$ . (Math 8 and 9)		
Model and solve problems using linear equations of the form $ax = b + cx$ . (Math 9)		
Model and solve problems using linear equations of the form $a(x + b) = c$ and $ax + b = cx + d$ . (Math 8 and 9)		
Model and solve problems using linear equations of the form $a(bx + c) = d(ex + f)$ and $a/x = b$ , $x \neq 0$ . (Math 9)		
Explain and illustrate strategies to solve single variable linear inequalities with rational coefficients within a problem-solving context. (Math 9)		

### Scale Factors, Symmetry and Similarity

<b>Learning Outcomes</b>	<b>Task</b>	<b>Assessment</b>
Demonstrate an understanding of percents. (Math 8)		
Solve problems involving ratios, rates, and proportional reasoning. (Math 8)		
Demonstrate an understanding of similarity of polygons. (Math 9)		
Draw and interpret scale diagrams of 2-D shapes. (Math 9)		
Demonstrate an understanding of line and rotation symmetry. (Math 9)		
Explain, identify, and create tessellations. (Math 8)		

### Surface Area and Volume

<b>Learning Outcomes</b>	<b>Task</b>	<b>Assessment</b>
Draw and interpret top, front, and side views of 3D objects composed of right rectangular prisms. (Math 8)		
Draw and construct nets for 3D objects. (Math 8)		
Determine the surface area for right rectangular prisms, right triangular prisms, and right cylinders. (Math 8)		
Determine the volume for right rectangular prisms, right triangular prisms, and right cylinders. (Math 8)		
Determine the surface area of composite 3-D objects to solve problems. (Math 9)		

## Circle Geometry

<b>Learning Outcomes</b>	<b>Task</b>	<b>Assessment</b>
Use the following circle property: the perpendicular from the centre of a circle to a chord bisects the chord. (Math 9)		
Use the following circle property: the measure of the central angle is equal to twice the measure of the inscribed angle subtended by the same arc. (Math 9)		
Use the following circle property: the inscribed angles subtended by the same arc are congruent. (Math 9)		
Use the following circle property: a tangent to a circle is perpendicular to the radius at the point of tangency. (Math 9)		

## Probability and Statistics

<b>Learning Outcomes</b>	<b>Task</b>	<b>Assessment</b>
Describe and critique how data is collected and presented. (Math 8 and 9)		
Select and defend the choice of using either a population or a sample of a population to answer a question. (Math 9)		
Develop and implement a project plan for the collection, display, and analysis of data. (Math 9)		
Solve problems involving the probability of multiple independent events. (Math 8)		
Demonstrate an understanding of the role of probability in society. (Math 9)		

## Curricular Competencies

<b>Learning Outcomes</b>	<b>Task</b>	<b>Assessment</b>
Use mathematical vocabulary and language to contribute to mathematical discussions. (Math 8 and 9)		
Incorporate different cultural perspectives, including those of First Peoples, when exploring mathematics. (Math 8 and 9)		
Connect mathematical concepts to other disciplines, to personal choices, and to the real world. (Math 8 and 9)		