Lesson #40

Grade 9 Math Outcomes

**We successfully covered all the Math 9 curriculum outcomes this year. Congratulations. Below, I highlighted the outcomes that we covered this semester. These outcomes would have been on your June exam.**

**Consider this your end of the year test. In your notebooks on p. 81 give an example for each of the highlighted outcomes that explains your understanding. Feel free to use your notes from your online learning.**

N1: Demonstrate an understanding of powers by • representing repeated multiplication using powers • show that a power with an exponent of zero is equal to one • solving problems

N2: Demonstrate an understanding of operations on power

N3: Demonstrate an understanding of rational numbers by: • comparing and ordering • solving problems that involve arithmetic operations

N4: Explain and apply the order of operations, including exponents, with and without technology.

N5: Determine the square root of positive rational numbers that are perfect squares.

N6: Determine an approximate square root of positive rational numbers that are nonperfect squares.

PR1: Generalize a pattern arising from a problem-solving context using linear equations and verify by substitution.

PR2: Graph linear relations, analyze the graph and interpolate or extrapolate to solve problems.

PR3: Model and **solve** problems using linear **equations.p.41-50 in your notebooks**

PR4: Explain and illustrate strategies to **solve** single variable **linear inequalities. P. 50-59 in your notebooks.**

PR5: Demonstrate an **understanding of polynomials.**

PR6: Model, record and explain the operations of **addition and subtraction of polynomial expressions**, concretely, pictorially and symbolically.

PR7: Model, record and explain the operations of **multiplication and division of polynomial expressi**ons by monomials, concretely, pictorially and symbolically.

SS1: Solve problems and justify the solution strategy using **circle properties** including: • the perpendicular from the centre of a circle to a chord bisects the chord •the central angle is equal to twice the measure of the inscribed angle subtended by the same arc • the inscribed angles subtended by the same arc are congruent • a tangent to a circle is perpendicular to the radius at the point of tangency. P.78-80 in your notebooks.

SS2: Determine the surface area of composite 3-D objects to solve problems.

SS3: Demonstrate an understanding of **similarity of polygons**. P.68-72 in your notebooks.

SS4: Draw and interpret **scale diagrams** of 2-D shapes. P. 66-71 in your notebooks.

SS5: Demonstrate an understanding of **line and rotational symmetry**. P.73-76 in your notebooks.

SP1: Describe the effect of the following on data collection: • bias • use of language • ethics • cost • time and timing • privacy • cultural sensitivity P.60-65 in your notebooks.

SP2: Select and defend the choice of using either a **population or a sample** of a population to answer a question. P.60-65 in your notebooks.

SP3: Construct, label, and interpret **histograms** to solve problems P.63 in your notebooks.

SP4: Develop and implement a project plan for the collection, display and analysis of data by: • formulating a question for investigation • choosing a data collection method that includes • social considerations • selecting a population or a sample • collecting the data • displaying the collected data in an appropriate manner • drawing conclusions to answer the question. **(You did this in lesson #24 on page 64 of your notebook)**

SP5: Demonstrate an understanding of the role of **probability in society**.p. 60-65 in your notebooks.