Number Relations & Functions 10

Course Outline

Resources: Text- ***(Pearson) Foundations and Pre-Calculus Mathematics 10***

Supplement – ***http://www.pearsonschoolcanada.ca/media/canada/math10wncp\_manitoba\_curriculum\_companion\_final.pdf***

Unit: Curriculum Reference:

**Chapter 3 Factors and Products**

Factors:

Prime factors AN 1

Greatest Common Factor (GCF) AN 1

Least Common Multiple (LCM) AN 1

Square Root AN 1

Cube Root AN 1

Polynomials: (Limited to monomials, binomials, trinomials)

Substitution AN4

Multiplication of Polynomials AN4

Common factor Polynomials AN5

Trinomial Factoring AN5

Difference of Squares AN5

**Chapter 4 Roots and Powers**

Irrational Numbers:

Real Number System AN2

Radicals

Entire to Mixed (Numerical radicands only) AN2

Different index ( , a=index) AN2

Powers:

Integral exponents AN3

Numerical bases

Rational exponents AN3

Literal exponents AN3

Exponent Laws

Literal bases AN3

**Chapter 5 Relations and Functions**

Data, Graphs & Situations:

Interpret / Describe a graph RF1

Graph Situations (label graphs to represent situation) RF1

Graph given data or table of values RF1

Domain / Range RF1 & RF5

Continuous / Discrete data

Relations and Functions:

Difference between a Relation and a Function RF2

Function / Non-Function RF2

Linear Relations:

Create a Table of Values given an equation RF4

Dependent / Independent Variables RF4

Determine if the following describes a linear relation: RF4

Situation

Graph

Table of Values

Set of Ordered Pairs

Equation

Unit: Curriculum Reference:

**Chapter 5 Relations and Functions** (Continued)

Function Notation:

Express equation to function notation RF9

Function notation to Equation

f(x) = 3x – 2 , find f(3) RF9

g(t)=7 + t , find g(t)=15 RF9

Sketch Graph RF9

**Chapter 6 Linear Functions**

Slope:

Slope: ; ; RF3

Parallel vs. Perpendicular lines RF3

Characteristics of Linear Relations:

Intercepts RF5

Slope RF5

Domain / Range RF5

Equations of linear Relations:

Slope Intercept Form y=mx+b RF6

General Form ax+by+c=0, where a>0 RF6

Slope – Point Form (y-y1)=m(x-x1) RF6

Express a linear relation in each of the different forms RF6

Rewrite one form to another form RF6

Match graphs to different forms of linear relation equations. RF6 & RF4

Equation of a line:

Determine the equation of a line given: RF7

Graph

Point and slope

Two points

Point and an equation of a parallel or perpendicular line

A scatter plot (line of best fit) (refer to supplement) RF7

**Chapter 7 Systems of Linear Equations (11 days)**

Systems of Equations:

Model the situation RF10

Explain point of intersection RF10

Verify that a point is a solution RF10

One solution, no solution, infinite number of solutions RF10

Solve problems using systems of equations RF10

**Supplement : Distance / Midpoint**

Distance / Midpoint:

Distance = RF8

Midpoint= RF8

Determine the distance between two points RF8

Determine the midpoint between two points RF8

**Evaluation**

Summative Evaluation/Assessments 60%

Observation/Communication 10%

Demonstration of Knowledge 30%