MHF 4U – FINAL EXAM OUTLINE

Section A – RATES of CHANGE [7 marks]
You need to be able to:
• determine the average rate of change for a given interval of any function
• determine the instantaneous rate of change at a given point of any function (3 methods)

Section B – POLYNOMIAL FUNCTIONS [22 marks]
You need to be able to:
• use factor theorem and synthetic division to factor higher order polynomial functions
• use factor theorem/remainder theorem when necessary to help solve polynomial function problems
• determine intercepts, end behaviours and features of polynomial functions (odd and even degreed functions)
• use intercepts, end behaviours and features to graph polynomial functions
• solve polynomial equations
• solve polynomial inequalities

Section C – RATIONAL FUNCTIONS [17 marks]
You need to be able to:
• determine discontinuities (including asymptotes and holes)
• use discontinuities, intercepts and end behaviours to graph rational functions
• solve rational equations
• solve rational inequalities

Section D – TRIGONOMETRIC FUNCTIONS [25 marks]
You need to be able to:
• convert degrees to radians and radians to degrees
• determine exact trig ratios (primary and reciprocal) given a point on a terminal arm, a special angle
or one trig ratio
• determine exact trig ratios using compound angle and double angle formulas (given addition compound formula)
• solve trigonometric equations

Section E – EXPONENTIAL and LOGARITHMIC FUNCTIONS [18 marks]
You need to be able to:
• convert equations from exponential form to logarithmic form and from logarithmic form to exponential form
• use log laws to **evaluate** logarithmic expressions
• use log laws to **simplify** logarithmic expressions into a single log
• solve logarithmic equations
• solve exponential equations