Grade 11 Applied Final EXAM **(60 marks)**

Organized by units / Graphing calculator / 1-page study guide written or typed / 180 minutes / **Thursday, January 29**

10 multiple choice (10 marks)

-- statistics (2)
-- systems of linear inequalities (2)
-- logical reasoning (1)
-- trigonometry (2)
-- quadratic functions (2)
-- measurement (1)

10 Constructed Response Questions (50 marks)

-- statistics (10)
-- logical reasoning (3)
-- quadratic functions (9)
-- systems of linear inequalities (9)
-- trigonometry (10)
-- measurement (9)

Statistics

-- measures of central tendency (mean, median, mode)
-- measures of dispersion (range, standard deviation)
-- [STAT][EDIT] Enter data into L1, L2
-- [STAT][CALC] 1-Var Stat

-- Z-scores – explain what it is / use it to compare scores / calculate manually

$$z = (X - avg) / std.\ dev$$

-- Normal distributions – definition / determine whether data is normally distributed or not / with statistics (68/95/99)
-- Use the TI-83 to calculate the percentage of data that falls between two scores
-- [2nd][DISTR] NormalCDF(low, high, mean, std. dev)

Statistics cont'd.

-- Use the TI-83 to find the score that cuts off a given bottom percentage of the data

-- [2nd][DISTR] InvNorm(percentage, mean, std. deviation)

-- [2nd][DISTR] InvNorm(percentage) → gives a z-score answer

-- Application of Normal Distributions – different problems

Quadratic Functions

-- From a set of data, you should be able to:

-- graph a scatter plot [STAT][EDIT] to enter data and then [STATPLOT] to graph the data

-- find the quadratic function using a quadratic regression [STAT][CALC] QuadReg

-- Once you have the function, you can graph again [Y=] But this time you can use tools [VALUE], [INTERSECT], [ZEROS]

-- From a graph, you should be able to:

-- get a sense of how many solutions there (x-intercepts)

-- where the graph crosses the x and y axes

Trigonometry

-- Review of right angle triangle trigonometry

- -- Pythagoras
- -- Sin, Cos, and Tan ratios (S-O-H, C-A-H, T-O-A)
- -- Understand the ratios, use them to solve for unknowns

-- Non-right triangle trigonometry

- -- SINE law – when and how to use it for solving unknown sides and angles
- -- COSINE law – when and how to use it for solving unknown sides and angles
- -- Problems with 1 and 2 triangles