

HONORS ALGEBRA II
(Spring Final Exam)

I. General Information

A. Covers material from Chapters 7, 8, 9, 11 and 12 (12-3, 12-4 and 12-7)

B. Format

1. 20- Multiple Choice Questions (1 point each)

2. 6- Free Response Questions (2 points each)

Chapter	MC	FR	Total
7	4	1	5
8	5	1	6
9	5	2	7
11	3	1	4
12	3	1	4

C. Importance

Curved grade worth 20% of your semester grade

D. Formulas provided on back

II. Study Strategies

A. Determine wants/needs

$$.40\left(\frac{\quad}{\text{1st 9-wks}}\right) + .40\left(\frac{\quad}{\text{2nd 9-wks}}\right) + .20\left(\frac{\quad}{\text{Final Exam}}\right) = \frac{\quad}{\text{Semester}}$$

B. Review Material

1. Notes

a. Notebook

b. www.frankumstein.com

2. [Online Videos](#)

C. Practice Solving Problems

1. Chapter *Reviews* ([Online Textbook](#))

1. Chapter *Review Problems* (www.frankumstein.com)

2. [Online Quizzes and Tests](#)

REFERENCE SHEET

Compounding Interest Formulas		
Periodic	$A = P \left(1 + \frac{r}{n} \right)^{nt}$	
Continuous	$A = Pe^{rt}$	$e \approx 2.718$

Counting Formulas	
Combinations	${}_n C_r = \frac{n!}{(n-r)!r!}$
Permutations	${}_n P_r = \frac{n!}{(n-r)!}$

Equations of a Line	
Standard Form	$Ax + By = C$
Slope-Intercept Form	$y = mx + b$
Point-Slope Form	$y - y_1 = m(x - x_1)$

Sequences and Series	
Arithmetic Sequence	$a_n = a_1 + (n - 1)d$
Arithmetic Series	$S_n = \frac{n}{2}(a_1 + a_n)$
Geometric Sequence	$a_n = a_1 r^{n-1}$
Geometric Series	$S_n = \frac{a_1 - r a_n}{1 - r}$

Statistics	
Mean	$\bar{x} = \frac{\sum x_i}{n}$
Standard Deviation	$s_x = \sqrt{\frac{1}{n-1} \sum (x_i - \bar{x})^2}$ or $\sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}}$
Binomial Probability	$P(X = k) = {}_n C_k p^k (1 - p)^{n-k}$
Standardized z-scores	$z = \frac{x - \mu}{\sigma}$

Quadratics	
Standard Form of a Quadratic Equation	$ax^2 + bx + c = 0$
Quadratic Formula	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$