MATH 2360-008: EXAM 3 INFO/LOGISTICS/ADVICE

- **INFO:**

WHEN:	Wednesday (11/18) at 9:00am	DURATION:	50 mins
PROBLEM COUNT:	Appropriate for a 50-min exam	BONUS COUNT:	At least one

  - <u>TOPICS CANDIDATE FOR THE EXAM:</u>

    * LARSON 5.1: Norms, Dot Products (expect no explicit ?'s, but later Ch5 sections use this material)
    * LARSON 5.2: Inner Product Spaces: Induced Norms, Induced Metrics, Orthogonality, Orthogonal Projections
    * LARSON 5.4: Orthogonal Complements, Orthogonal Projections onto Subspaces, Least Squares
    * LARSON 6.1: Linear Transformations: Definition, Domain, Range, Image
    * LARSON 6.2: Linear Transformations: Kernel, Range, 1-1, Onto, Isomorphisms
    * LARSON 6.3: Linear Transformations: Standard Matrix, Compositions, Inverses, Derivatives/Integrals in P_n

  - <u>TOPICS CANDIDATE FOR BONUS QUESTIONS:</u> (**Maximum Bonus Points Possible = 15**)

    * LARSON 5.3: Orthonormal Bases, Gram-Schmidt Procedure

  - <u>TOPICS NOT COVERED AT ALL:</u>

    * **Proofs of any kind**, **Graphs of any kind**
    * LARSON 5.2: Proving a Function is/is not an Inner Product, Cauchy-Schwarz Inequality
    * LARSON 5.3: Coordinates Relative to an Orthonormal Basis [i.e. Converting $[\mathbf{x}]_{\mathcal{E}} \to [\mathbf{x}]_{\widehat{\mathcal{B}}_\perp}$] (pg 252)
    * LARSON 5.4: Fundamental Subspaces of a Matrix, Direct Sums, Mathematical Modeling (pgs 267-268)
    * LARSON 5.5: Applications of Inner Product Spaces (entire section)
    * LARSON 6.3: Transformation Matrix for Non-standard Bases (pg 320)
    * LARSON 6.4: Transition Matrices and Similarity (entire section)
    * LARSON 6.5: Applications of Linear Transformations (entire section)
    * **Any applications mentioned in other sections.**

- **LOGISTICS:**

  - **All you need to bring are pencil(s), eraser(s) & your Raidercard**.
  - Clear your desk of everything except pencil(s) and eraser(s).
  - **Books, notes, notecards, calculators NOT PERMITTED.**
  - Mobile devices (phones, tablets, PC's, music, ...) are to be shut off and put away.
  - Tissues will be furnished – for allergies, not for sobbing.
  - No talking or cheating!
  - **When you turn in your exam, be prepared to show me your Raidercard if I don't recognize you**.
  - **If you ask to use the restroom during the exam, either hold it or turn in your exam for grading**.

- **ADVICE:**

  - **Use the restroom before the exam, if needed**.
  - **Do not be late to the exam**.
  - Review the slides, past homework, and perhaps even work some similar problems in the textbook.
  - Use flashcards to aid in memorization of hard formulas.
  - Study for the exam together in groups.
  - Show up to the review session on Monday (11/16).
  - **If you need more review, show up to the last-minute help session Tuesday evening (11/17)**.
  - **SHOW APPROPRIATE WORK! Attempt bonus question(s)**.