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# MAKING LINEAR ALGEBRA CONNECTIONS

2012 Joint Mathematics Meetings

# MAKING CONNECTIONS

- An Overview of the Issue
- A Daily Activity
- An Exam Review Activity

The number of concepts

# THE VOCABULARY OF CALCULUS 1

- Limit
- Continuity
- Derivative
- Increasing/Decreasing
- Maximum/Minimum
- Concave Up/Down
- Critical/Inflection Point
- Riemann Sum
- Integral

The number of concepts

# THE VOCABULARY OF LINEAR ALGEBRA

- Elementary row operation
- Pivot position/column
- Row Equivalent
- (Reduced) Echelon Form
- Elementary matrix
- Onto
- One-to-One
- Identity
- Inverse
- Linear Transformation
- Span
- Linear Combination
- Linearly Independent
- Homogeneous Equation
- Singular

The level of abstraction at which the terms must be understood

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# SOLUTION 1: DAILY VOCABULARY QUIZ

- Word from previous lecture with most application to the current topic
- Scored on 2-point scale
- Drop *n* lowest scores
- Very modest weight on final grade

# BENEFITS

- Provides a natural review
- Focuses attention on vocabulary
- Reduces absenteeism and tardiness

The density of connections between concepts

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# SOLUTION 2: REVIEW ACTIVITY

- Two randomly selected words
- Three randomly selected student names
- Define and Connect

# BENEFITS

- Additional attention to vocabulary
- Chance to address common issues in content and style
- Creates a connection-oriented mindset
- It's fun! (provided you have an affirming class atmosphere)