

MATH 253

Today

1. 2.6 Linear independence (Understand the concept of linear independence and how to determine whether given vectors are LI.)
2. WeBWorK

Where is today's material used?

1. Physics (solutions to Maxwell's equations in free space, quantum mechanics, Fourier series – everywhere we dealt with subspaces.)
2. Math (Linear independence appears throughout mathematics)

Warm-up

Determine whether the vectors $(6, -8, -12)$ and $(-9, 12, 18)$ are linearly dependent.

Theorem 1. *Suppose that $A_{m \times n}$ is row equivalent to $B_{m \times n}$. Then the rows of A are linearly independent if and only if the rows of B are linearly independent.*

Next Time

1. 2.7 Basis and dimension
2. Note: 3 proofs due today (2.4).