

MA104 Lesson 31

LESSON 31 - INTRODUCTION TO VECTOR AND VECTOR OPERATIONS

Thursday, 06 March, 2008

Outline

- 1 Admin
- 2 Last Class
- 3 INTRODUCTION TO VECTOR AND VECTOR OPERATIONS
 - Course Guide
 - Definitions
 - Three Dimensional Room
 - Do Problem Help
- 4 Look Forward - The Dot and Cross Product
 - Course Guide

Birthday Cadet

Who's Birthday is It?

Birthday Cadet

Who's Birthday is It?

- 1 This cadet is from a city in Pennsylvania!

Birthday Cadet

Who's Birthday is It?



2

Birthday Cadet

Who's Birthday is It?

3 Yes it is Lancaster, Pennsylvania

Birthday Cadet

1



Birthday Cadet

- 2 This cadet is part of the Orienteering Team

Birthday Cadet

3



Birthday Cadet

4 Jason Trump is 19 tomorrow 07 March 2008

Admin

- 1 Bridge Building day on Friday.
- 2 <http://bridgecontest.usma.edu/>

Admin

- 1 Bridge Building day on Friday.
- 2 <http://bridgecontest.usma.edu/>
- 3 Quiz 15 minutes

Admin

- 1 Bridge Building day on Friday.
- 2 <http://bridgecontest.usma.edu/>
- 3 Quiz 15 minutes
- 4 WPR II presentations

Mathematical Dimensions

Questions?

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Objectives

- 1 Understand what a vector is and the properties of vectors given on page 774.
- 2 Understand vector addition, subtraction, and scalar multiplication algebraically, physically, and graphically.
- 3 Understand what a unit vector is and how to calculate the unit vector for any given vector.
- 4 Understand how vectors can be used to describe several forces acting on an object, and how the resultant force is the sum of these vectors.
- 5 Determine a vector between two points.

READ

I Stewart: Section 12.2, pages 770-776.

THINK ABOUT

- 1 What is a unit vector?
- 2 What information can a unit vector relate?

DO Problems

I Section 12.2/ 4, 7, 9, 15, 19, 22, 24, 26

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Definitions

- 1 Page 770
- 2 Page 771
- 3 Page 773
- 4 Page 773
- 5 Page 773
- 6 Page 774 - Properties of Vectors

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This room in three dimensions

Think of this room as it is, Three Dimensional!

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Section 12.2/ 4, 7, 9, 15, 19, 22, 24, 26

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LESSON 33 - THE DOT AND CROSS PRODUCT

1 OBJECTIVES:

- 1 Understand what a vector is and the properties of vectors given on page 774.
- 2 Understand vector addition, subtraction, and scalar multiplication algebraically, physically, and graphically.
- 3 Understand what a unit vector is and how to calculate the unit vector for any given vector.
- 4 Understand how vectors can be used to describe several forces acting on an object, and how the resultant force is the sum of these vectors.
- 5 Determine a vector between two points.

2 READ:

- 1 Stewart: Section 12.2, pages 770-776.

3 THINK ABOUT:

- 1 What is a unit vector?
- 2 What information can a unit vector relate?

4 DO:

- 1 Section 12.2/ 4, 7, 9, 15, 19, 22, 24, 26

Questions?

Questions?