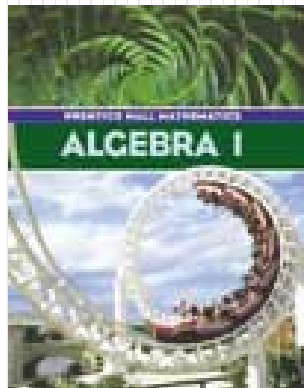




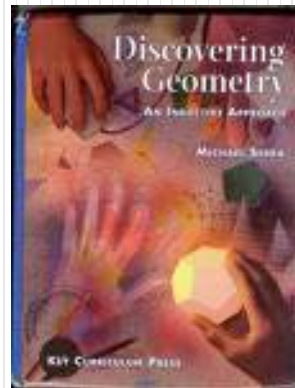
Mr. Northcutt's Math Classes Class Presentation



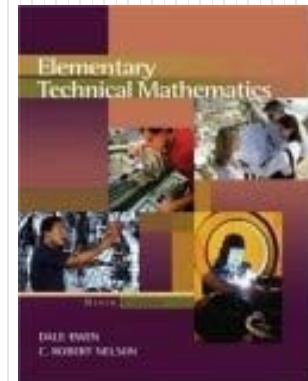
December 12, 2008 (67)



Math 1



Math 2



Applied Math



Math 1 – Daily Summary

- **Announcements**

- **TEST: Sections 8-1 thru 8-5 MONDAY!**
 - Sample Test & Key Distributed in Class (and on Website)

- **Class Objectives**

- Review of Exponents
 - Work on Sample Test

- **Assignment**

- Sample Test (Solutions on Back Side)



Review of Powers (Exponents)

- **Foundation of Exponents:**
 - Definition of a Power (Base & Exponent)
 - Power with a 0 Exponent
 - Power with a Negative Exponent
- **These all follow from above:**
 - Multiplication with Powers (same Base)
 - Power to a Power
 - Division with Powers



Math 2 – Daily Summary

- **Announcements**

- None

- **Class Objectives**

- HW Questions before Quiz?
- **Quiz on 6-1 thru 6-3 (22 Points)**
 - HW Check after completing Quiz (6-1 thru 6-3)

- **Assignment**

- Past Due HW (Catch-Up)



Applied Math – Daily Summary

- **Announcements**

- **Test: Chapter 7 – Ratio & Proportion on Tuesday**
 - **Sample Test on Website Now!!!**
- **Next Week: Project - Scale Drawings (Pick a Subject)**

- **Class Objectives**

- Inverse Variation
 - Pulley Systems, Gear Systems, Levers

- **Assignment**

- **Lesson 7.4: 9, 13, 14, 23, 28, 33, 34, 40**



Inverse Variation

- When two quantities change in a way such that their **PRODUCT** is constant they are said to **VARY INVERSELY**.

$$x_1 y_1 = x_2 y_2 = x_3 y_3 = \text{constant}$$

or

$$\frac{y_1}{y_2} = \frac{x_2}{x_1}$$

Inverse Ratios

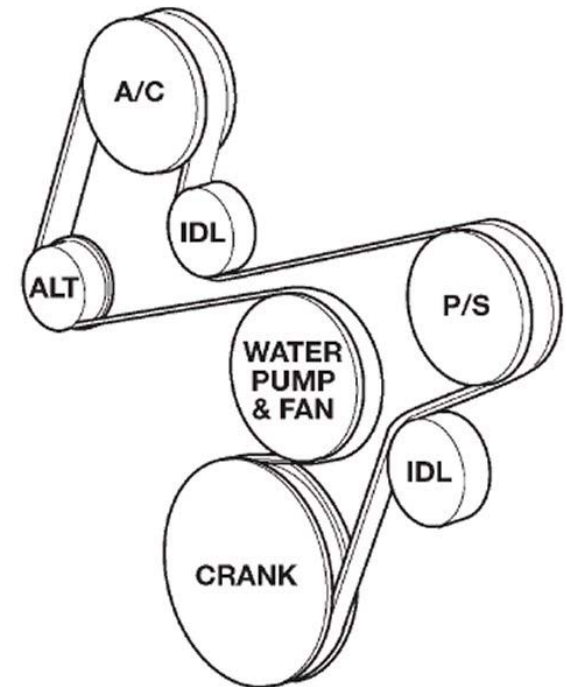


Pulley Systems - Belts

- **Pulley Systems (i.e., Belts) apply Inverse Variation.**

$$(\text{diameter A})(\text{rpm A}) = (\text{diameter B})(\text{rpm B})$$

If the Crank pulley has a diameter of 8 in and rotates at 900 rpm, and the A/C must turn at 1200 rpm, what size diameter must the A/C pulley have?



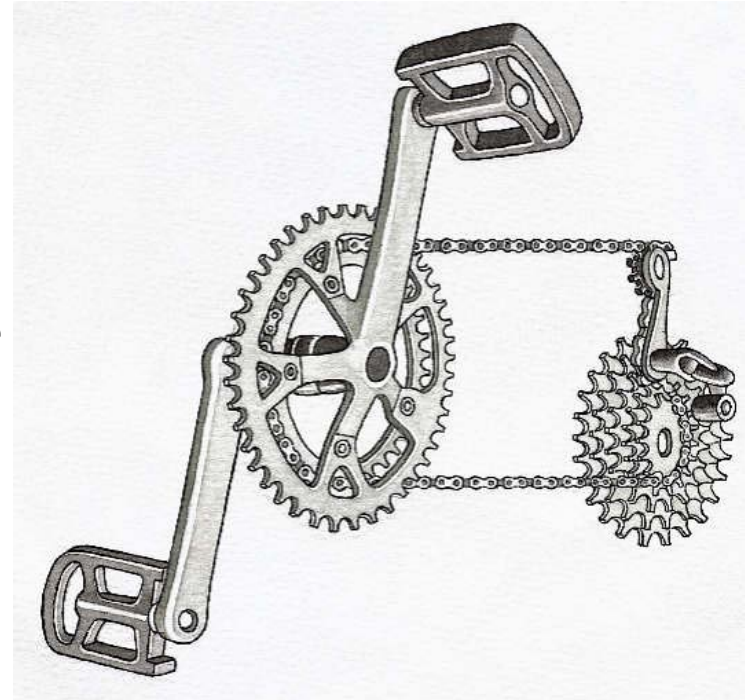


Gear Systems

- **Gear Systems (i.e., Transmissions, Bikes) use Inverse Variation.**

$$(\#teeth\ A)(rpm\ A) = (\#teeth\ B)(rpm\ B)$$

If the front shifter is set in a gear with 44 teeth and rotates at 90 rpm, and the rear shifter is in a gear with 22 teeth, at what rpm is the rear tire spinning? If the bike tires are 26" in diameter, how fast is the bike moving in mph?





Lever Systems (See-Saw)

- **Lever Systems (fulcrums, bars, etc.) use Inverse Variation.**

$$(\text{Force A})(\text{Distance A}) = (\text{Force B})(\text{Distance B})$$

A palette of wood weighing 1500 lbs must be lifted by two women with a fulcrum. The fulcrum is place 3 feet from the palette and the combined weight of the me is 300 lbs. How far must the men be from the fulcrum to lift the palette?

