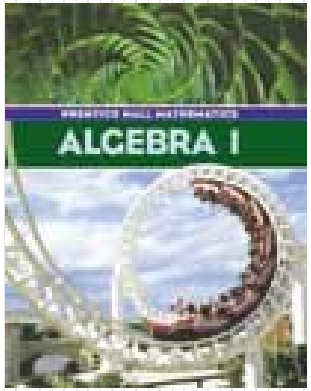
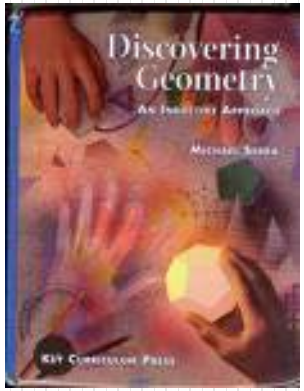
Mr. Northcutt's Math Classes
Class Presentation

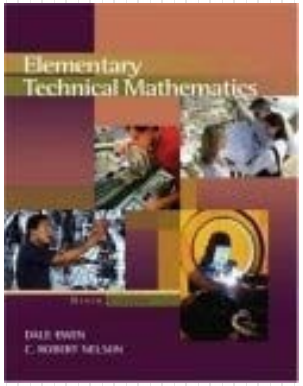
January 14, 2009 (82)



Math 1



Math 2



Applied Math

Math 1 – Daily Summary

- **Announcements**
  - Chapter 9 Test on Friday
  - Semester #1 Final and Proficiency Test Next Week
- **Class Objectives – *What you should learn today!***
  - Polynomial Operations Review – Add, Subtract, Multiply
  - Factoring Trinomials (continued)
- **Assignment**
  - **Section 9-5:** 17-38

Factoring Trinomials

- **"Factoring" is like undoing multiplication.**

$$15 = 3 \cdot 5$$

"15 is factored into 3 and 5."

- **Is it possible to do something similar with Polynomials?**

$$(x+3)(x+5) = x^2 + 3x + 5x + (3 \cdot 5)$$
$$= x^2 + (3+5)x + 15$$
$$= x^2 + 8x + 15$$

Review from Previous Lesson

- **Factor the following trinomial…**

$$x^2 - 3x - 18$$

$$(\qquad)\cdot(\qquad)$$

Now for even more of a challenge…

- **How might you factor this one?**

$$8x^2 + 16x + 6$$

$$(\quad)\cdot(\quad)$$

And more…

- **How might you factor this one?**

$$x^2 - xy - 6y^2$$

$$(\qquad)\cdot(\qquad)$$

Math 2 – Daily Summary

- **Announcements**
  - Chapter 7 Test on **Friday**!
  - Semester #1 Final and Proficiency Test Next Week**.**
- **Class Objectives – *What you should learn today!***
  - Proficiency Review
    - Order of Operations, Solving Equations & Inequalities
    - Linear Equations, Exponents & Polynomials, Geometry
  - Calculation of Arc Length
- **Assignment**
  - **Lesson 7.7**: 1-10, 12, 13, 16

Proficiency Review

- **Order of Operations**

$$3-2(4+3\div 3)$$

- **Solving Equations & Inequalities**

$$\frac{1}{6}x+\frac{3}{4}=\frac{3}{8}x-\frac{5}{6}$$

$$0.75-0.5x<1.75$$

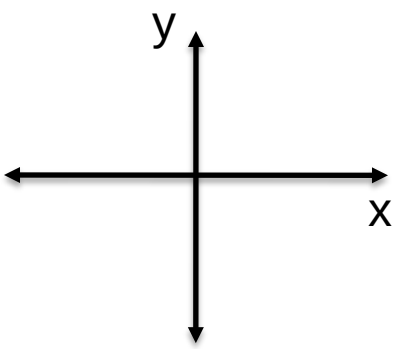
Proficiency Review

- **Exponents & Polynomials**

$$(2x-3y)^2$$

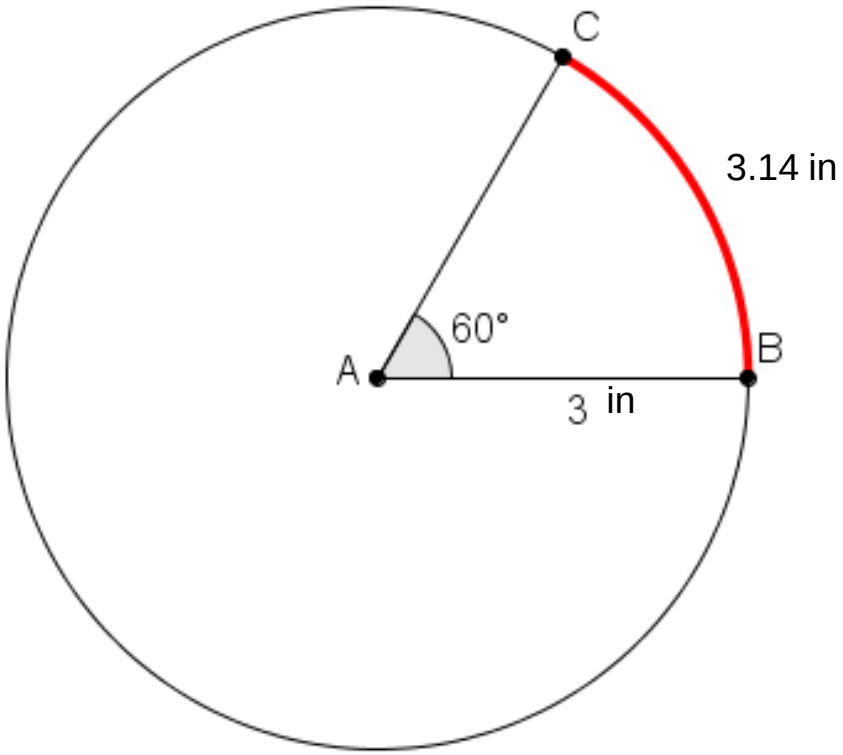
$$(2x^2y^3)^2$$

- **Graphing**
  - Where is the **origin** on a graph?



Arc Length

- **We know that <u>Arc Measure</u> is the Central Angle that intercepts the arc.**



How could we measure the <u>LENGTH</u> of the Arc CB?

Arc Measure in degrees (°).

Arc Length in **<u>Units of Length</u>**

- in, cm, ft…

Arc Length

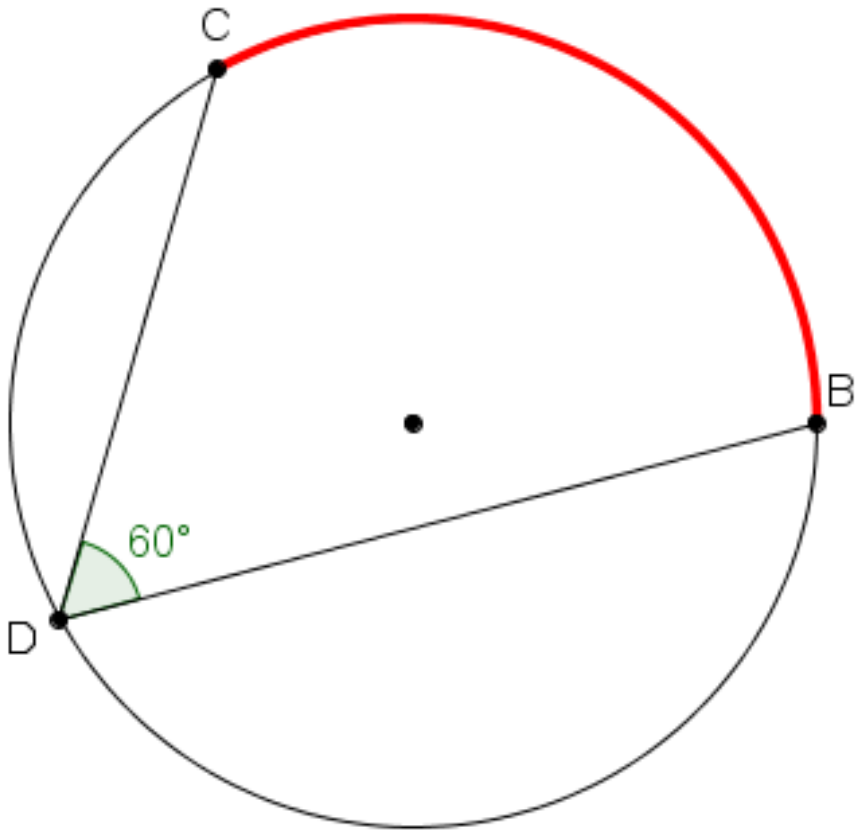
- **Length of an Arc**
  - Some fraction of the circumference of a circle.

$$Arc\ Length = \underbrace{\frac{m\overset{\frown}{ARC}}{360^\circ}}_{\text{“Fraction”}} \cdot Circumference$$

- **Arc Length Conjecture**
  - The length of an arc equals the (angle) measure of the arc divided by 360^o, times the circumference of the circle.

Example

- **If the radius is 24 cm, then what is the length of arc CB?**

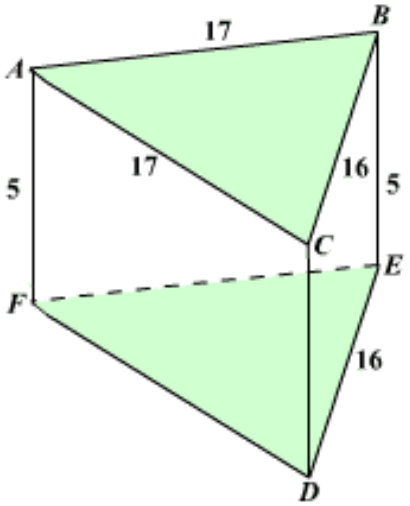


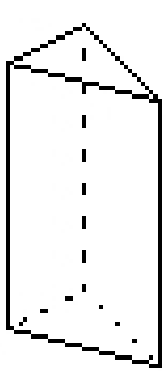
Applied Math – Daily Summary

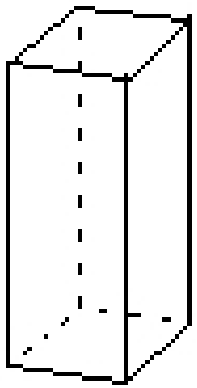
- **Announcements**
  - Chapter 12 Test Early Next Week (date TBD)
- **Class Objectives – *What you should learn today!***
  - Solid Geometry (vs. Plane Geometry)
    - Definition of a Prism
    - Types of Prisms
    - Calculation of Surface Area
    - Calculation of Volume
- **Assignment**
  - **Section 12.7:** 1, 7, 10, 14, 17, 18

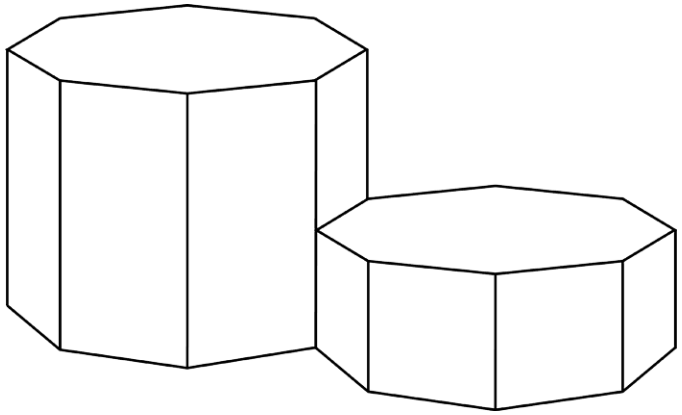
Prisms

- **“Solid” Geometry – 3 Dimension (Length, Width, Depth)**
- **Prism**
  - A solid whose sides a parallelograms and whose bases are a pair of congruent, parallel polygons.



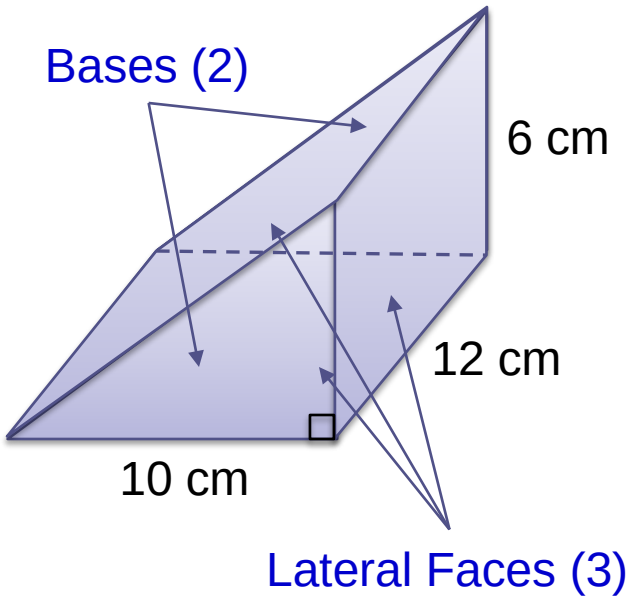






  - Polygon name of base is “type” of prism.

Surface Area and Volume of Prisms



Lateral Surface Area = $\sum Area_{Lateral\ Face}$

Total Surface Area = $\sum Area_{All\ Sides}$

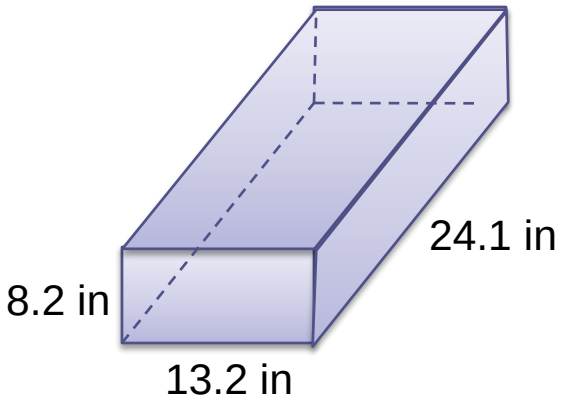
Volume = $B \cdot h$

B = Area of one Base

h = Altitude (perpendicular distance between bases)

Example

- **A rectangular piece of steel is 24.1 in by 13.2 in by 8.2 in. Steel weighs 0.28 lb/in³. Find the weight in pounds.**



$$V = Bh = [(13.2in)(24.1in)] \cdot (8.2in)$$
$$= 2610in^3$$

$$2610\cancel{in}^3 \cdot \frac{0.28lb}{1\cancel{in}^3} = 730lb$$