

Chapter 1 - An Introduction to Geometry

HW #1

- Read syllabus, add Khan Academy coach code, and fill out survey Due TOMORROW (Tues. 06 Nov.)
- Read Ch 1.


Note that you are responsible for knowing all definitions, theorems, and formulas in your text, even if not explicitly gone over in class.


Key words are highlighted in your textbook in red.

HW #2

- Ch 1 Review Problems pp. 36-38 - all problems from sets I, II, & III Due Wednesday. Show all of your own work!

1.1

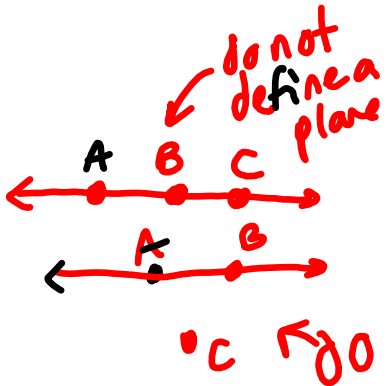
line segment 

line 

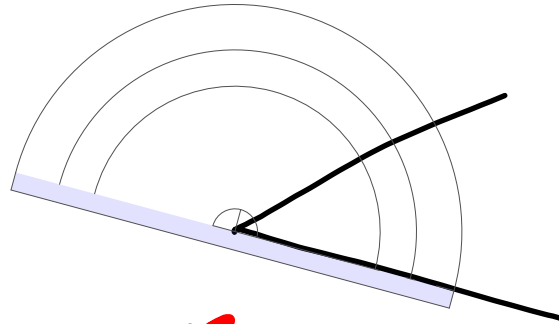
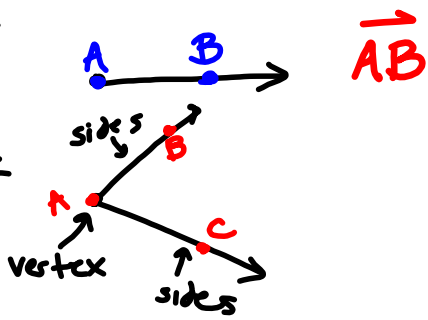
2 points determine a line
 \Rightarrow any 2 points in space are collinear

plane - flat surface extending infinitely

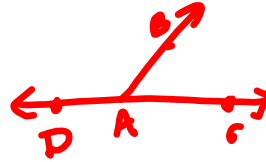
non collinear
 3 points define a plane
 \Rightarrow any 3 points in space are coplanar



1.2
ray
angle



$\angle BAC$ $\angle CAB$ $\angle A$
 ~~$\angle ABC$~~

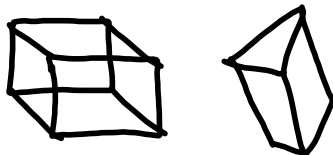


1.3

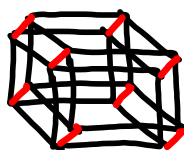
- point is 0-dimensional
- line / line segment 1-dimensional



polygons are 2-dimensional

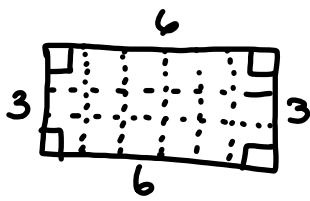


polyhedron/polyhedra 3-dimensional



4-D hypercube

perimeter, area, & volume

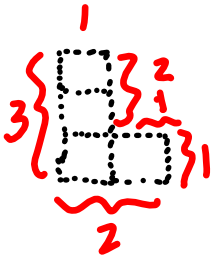


perimeter = sum of lengths of sides

$$6 + 6 + 3 + 3 = 18$$

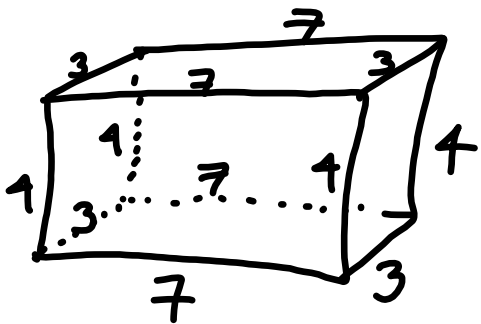
$$\text{area} = \text{length} \times \text{width} = 6 \times 3 = 18$$

(base x height)



$$\text{perimeter} = 10$$

$$\text{area} = 4$$



Volume = product of 3 linear dimensions

$$7 \times 3 \times 4 = 84$$

$$2(28) = 2(20 + 8) = 40 + 16$$

Surface Area = sum of areas of surfaces

$$2(3 \times 7) + 2(3 \times 4) + 2(7 \times 4) = 42 + 24 + 56 = 122$$

1.4 - Compass Constructions

Compass - draw circles & arcs

Straightedge - ruler without the ability to measure distance;
draw lines through points

bisect a line segment

