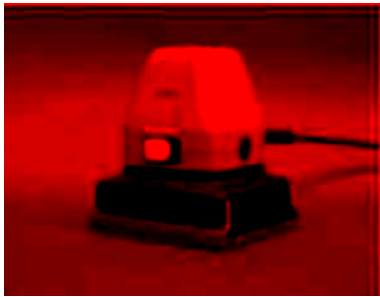


2.744



David Wallace

drwallac@mit.edu

Idea



Woodie Flowers

flowers@mit.edu

Sketching



Charles Dumont

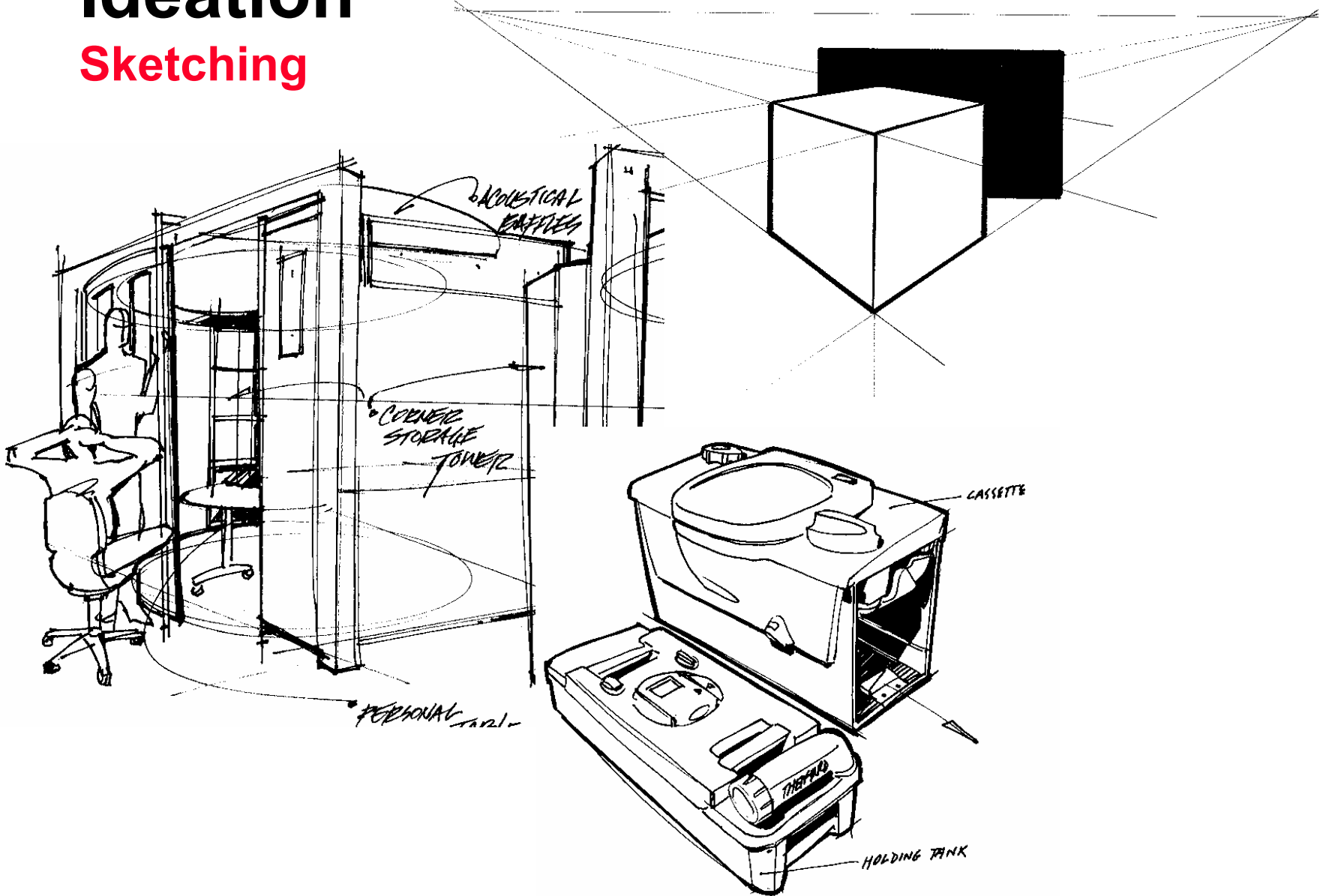
dumont@mit.edu

Jacob Wronski

wronski@mit.edu

Ideation

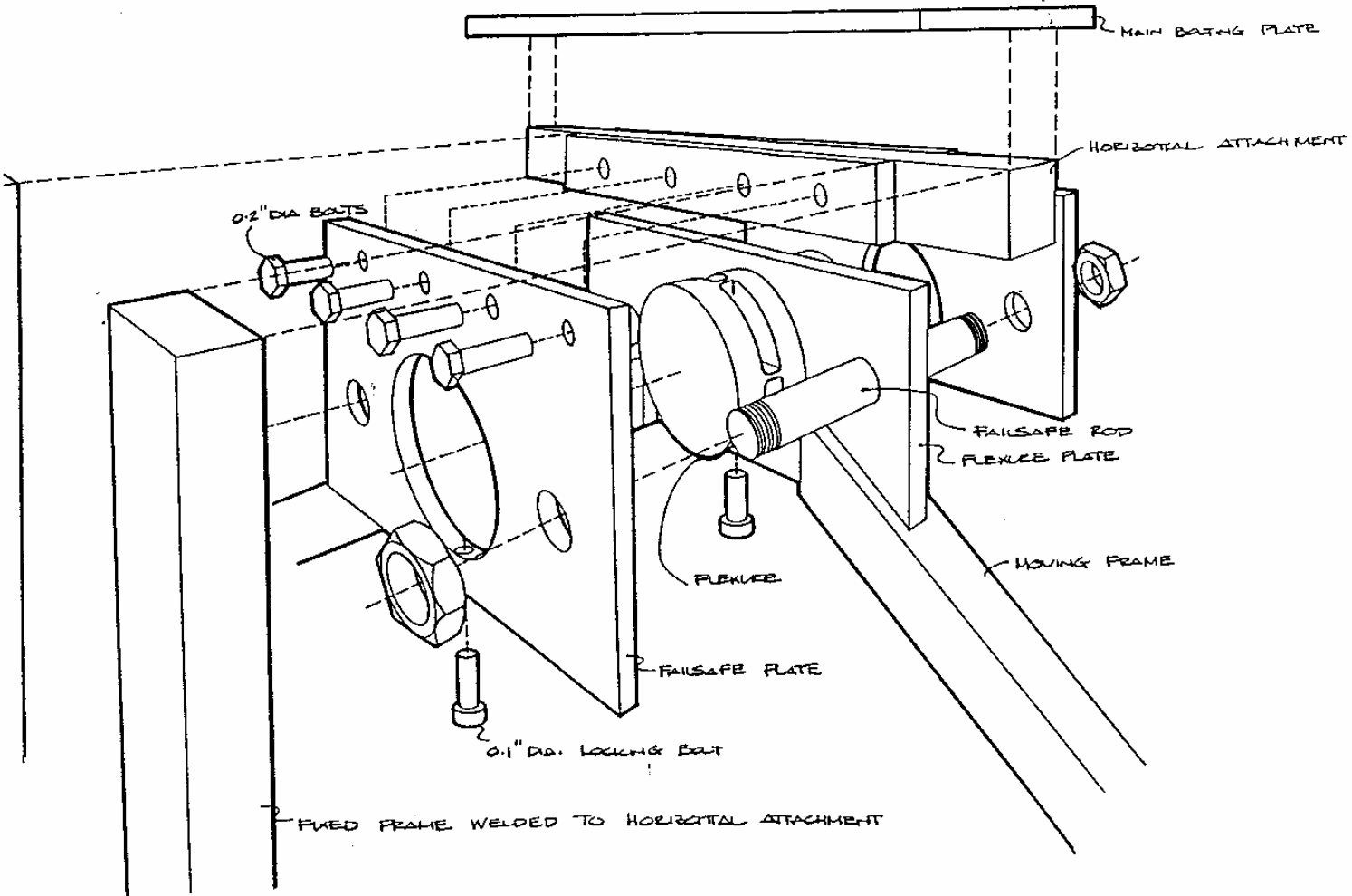
Sketching



Idea Exploration

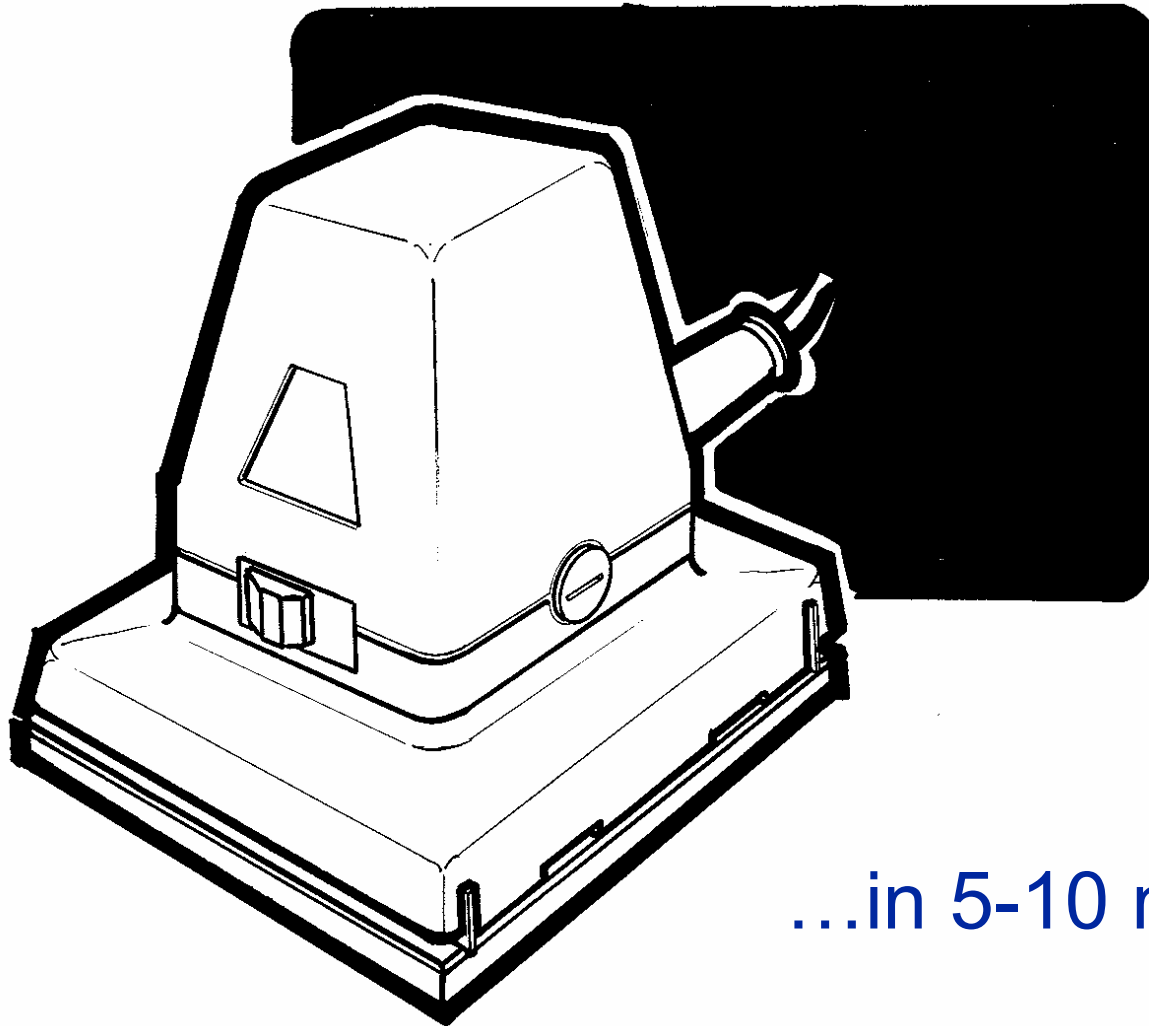
Engineering style

PIVOT ASSEMBLY JULY 24/89 WAG:11



Goal

Over the two weeks



...in 5-10 minutes

Sketching

Class goals

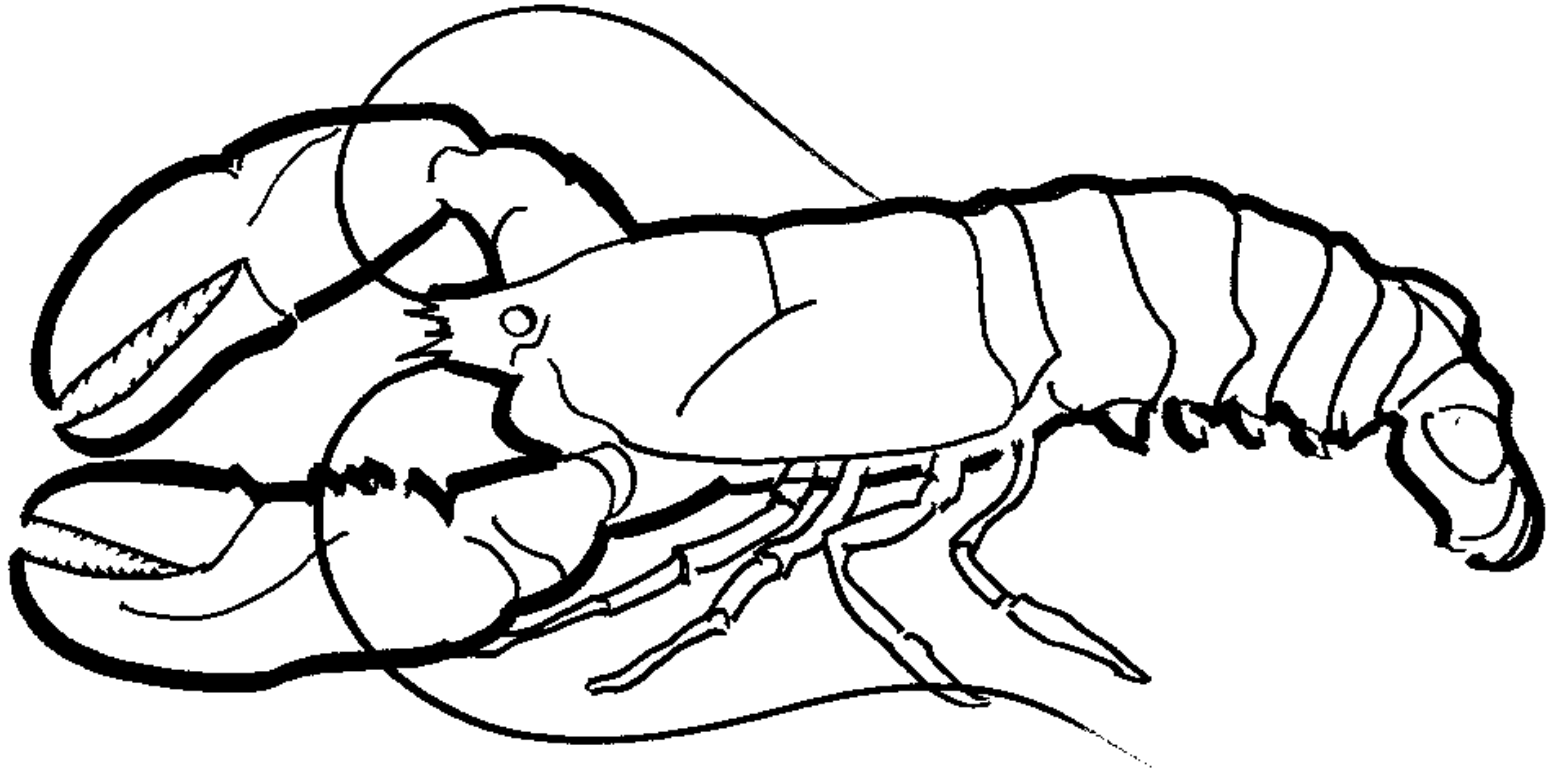
Sketching philosophy

Skills drawing basic shapes

Method to represent 3D objects in 2D

Sketching

Technique and visual memory

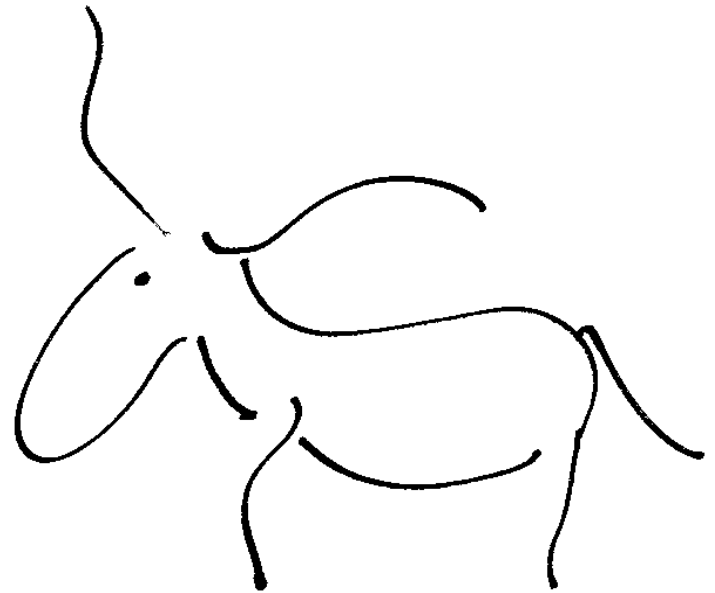
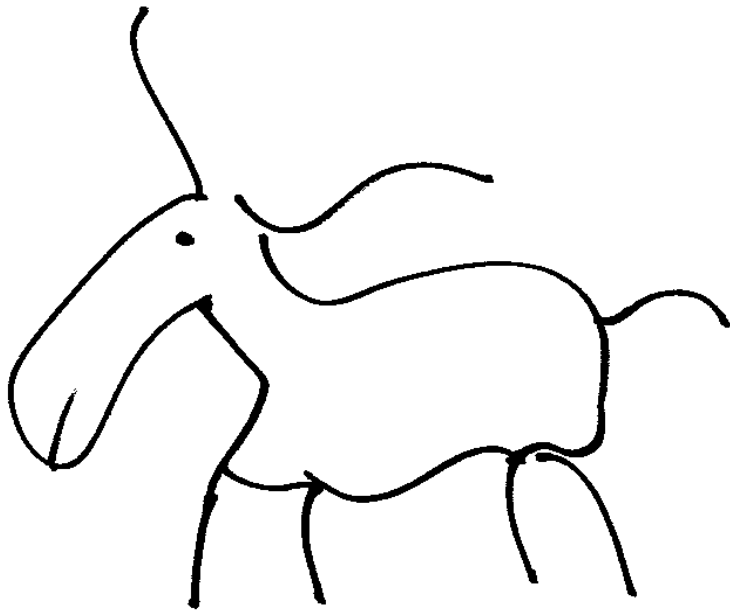


basic structure

proportion

necessary details

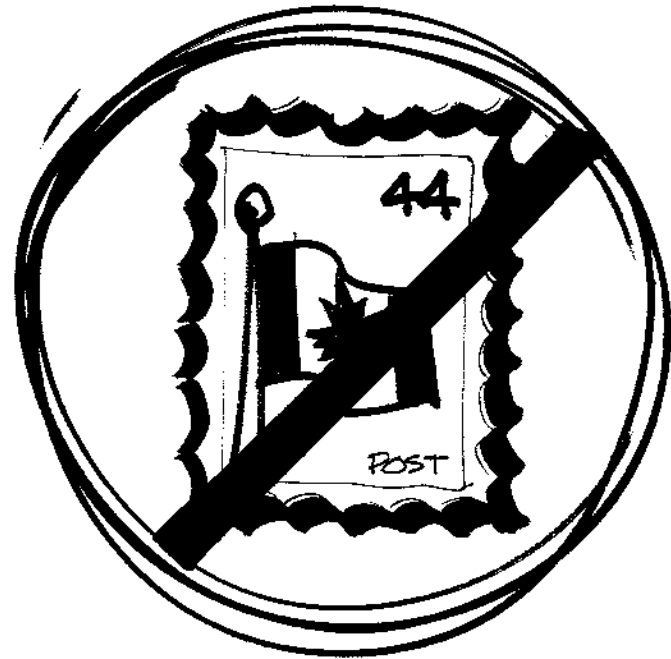
Visual Memory Proverb



draw what you see
not what you know

Technique

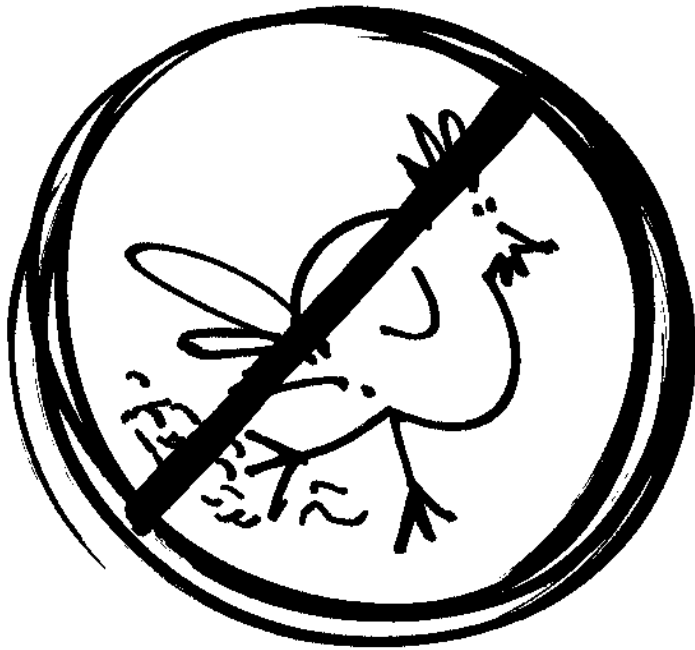
Rule number 1



no postage stamps

Technique

Rule number 2



no chicken scratches

Sketching Technique

Learning a visual language

Mental Model + Skills + Rules = Communication

cognition

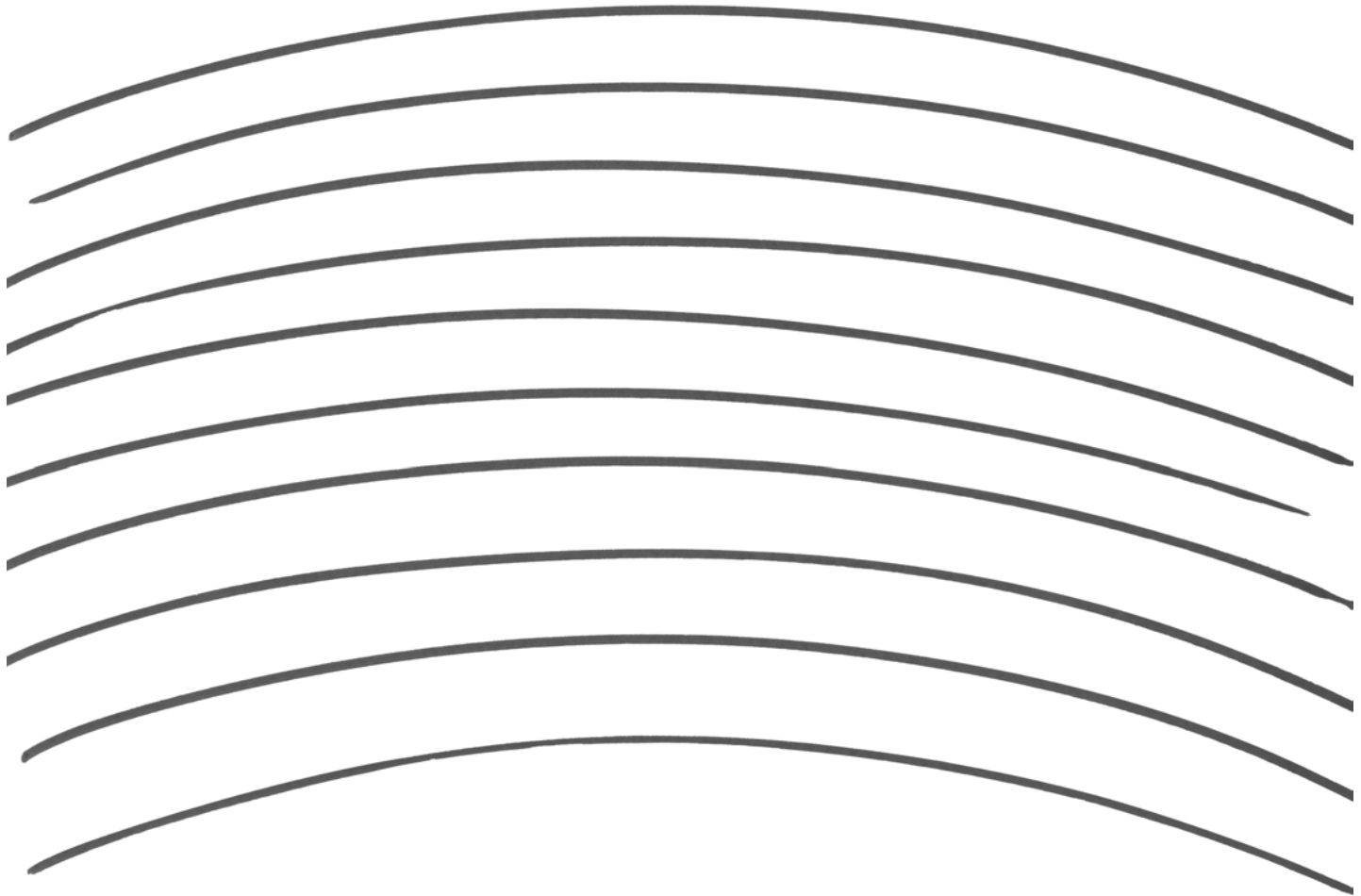
AABBCC

Spelling
Grammar

See spot run

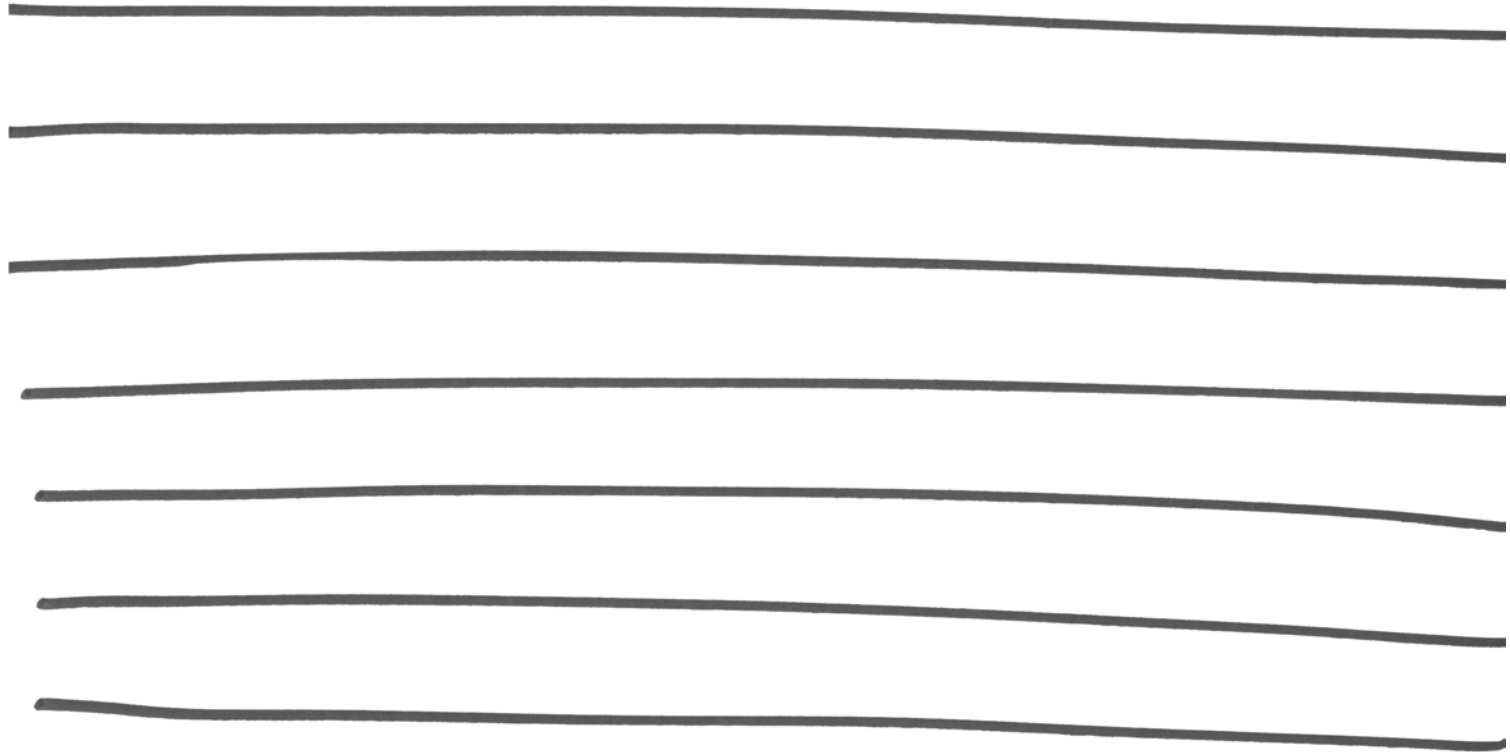
Learning Skills (abc)

Freehand arcs



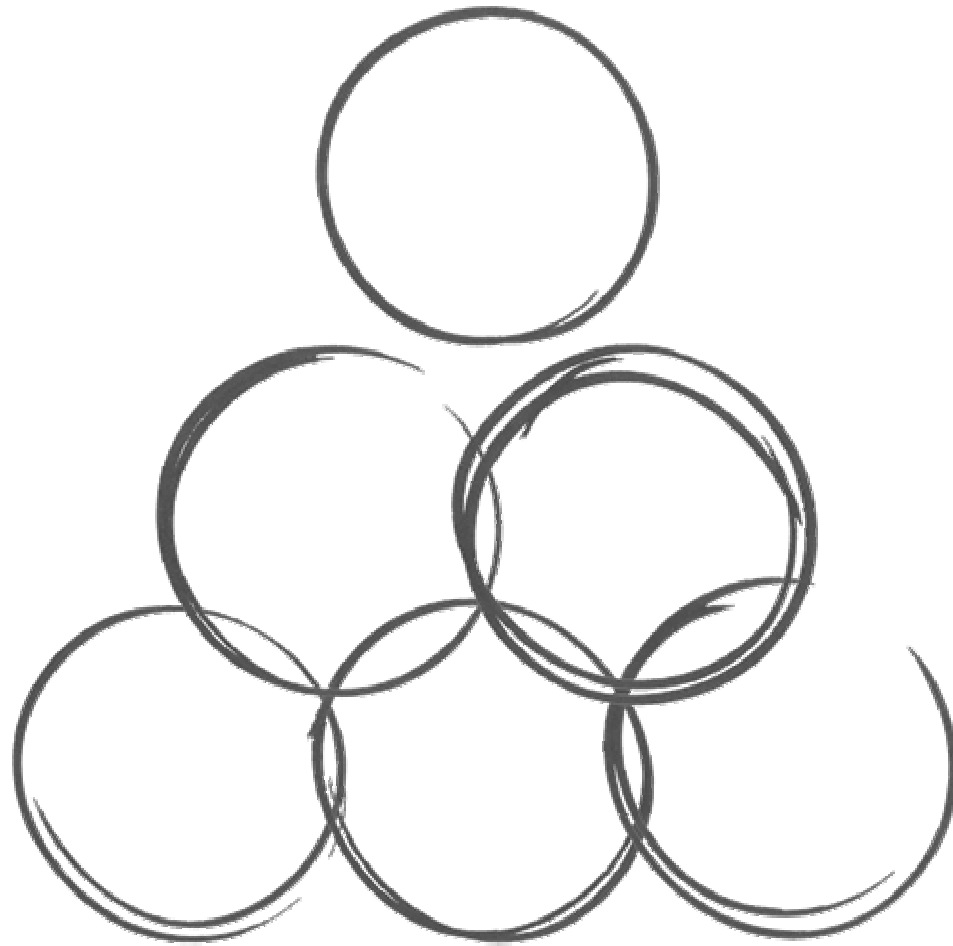
Learning Skills (abc)

Freehand lines



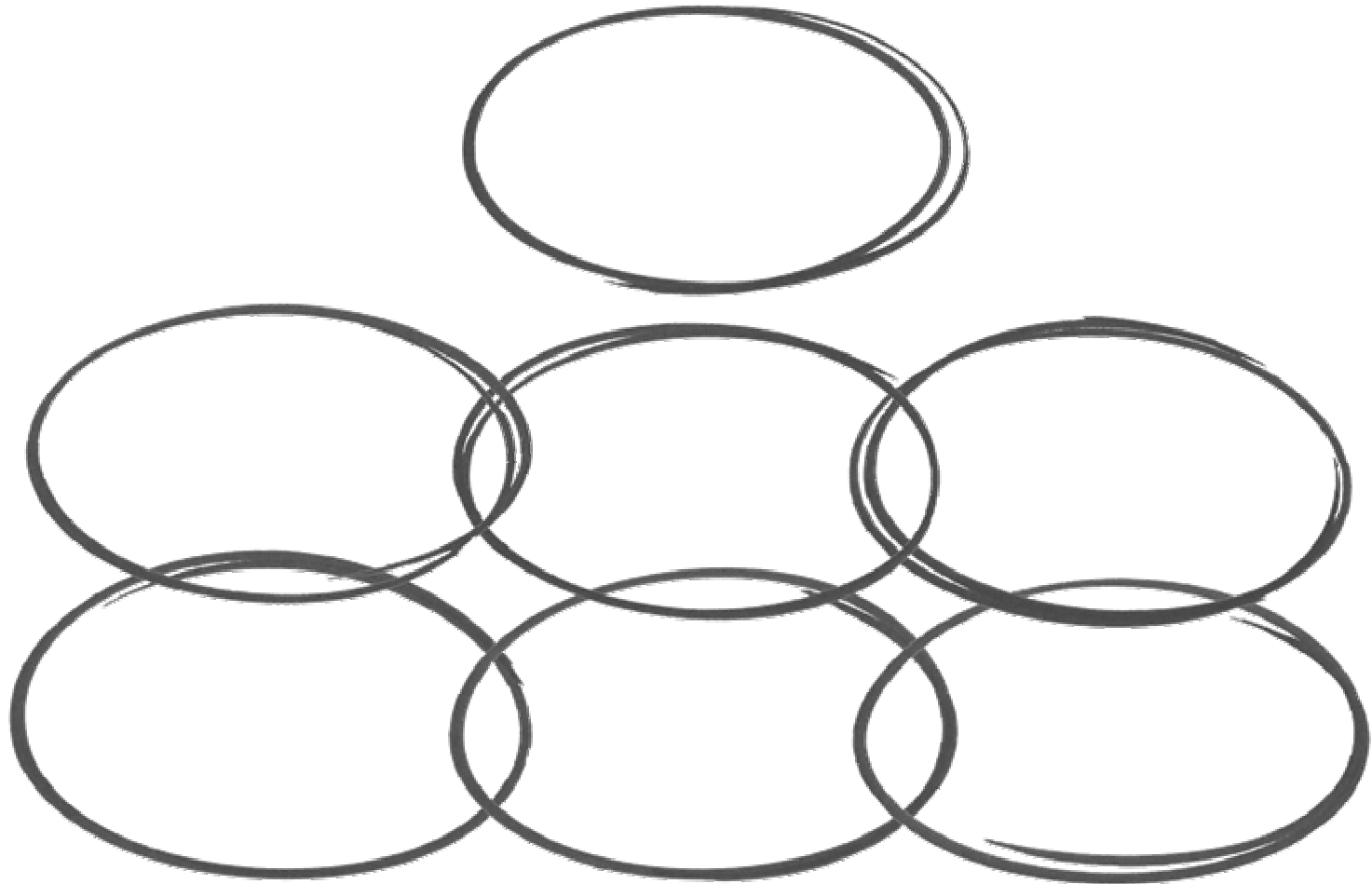
Learning Skills (abc)

Freehand circles



Learning Skills (abc)

Freehand ellipses (30 degree)



Learning The Rules (grammar)

More than relative size



"Excuse me for shouting—I thought you were farther away."

Perspective

Learning The Rules (grammar)

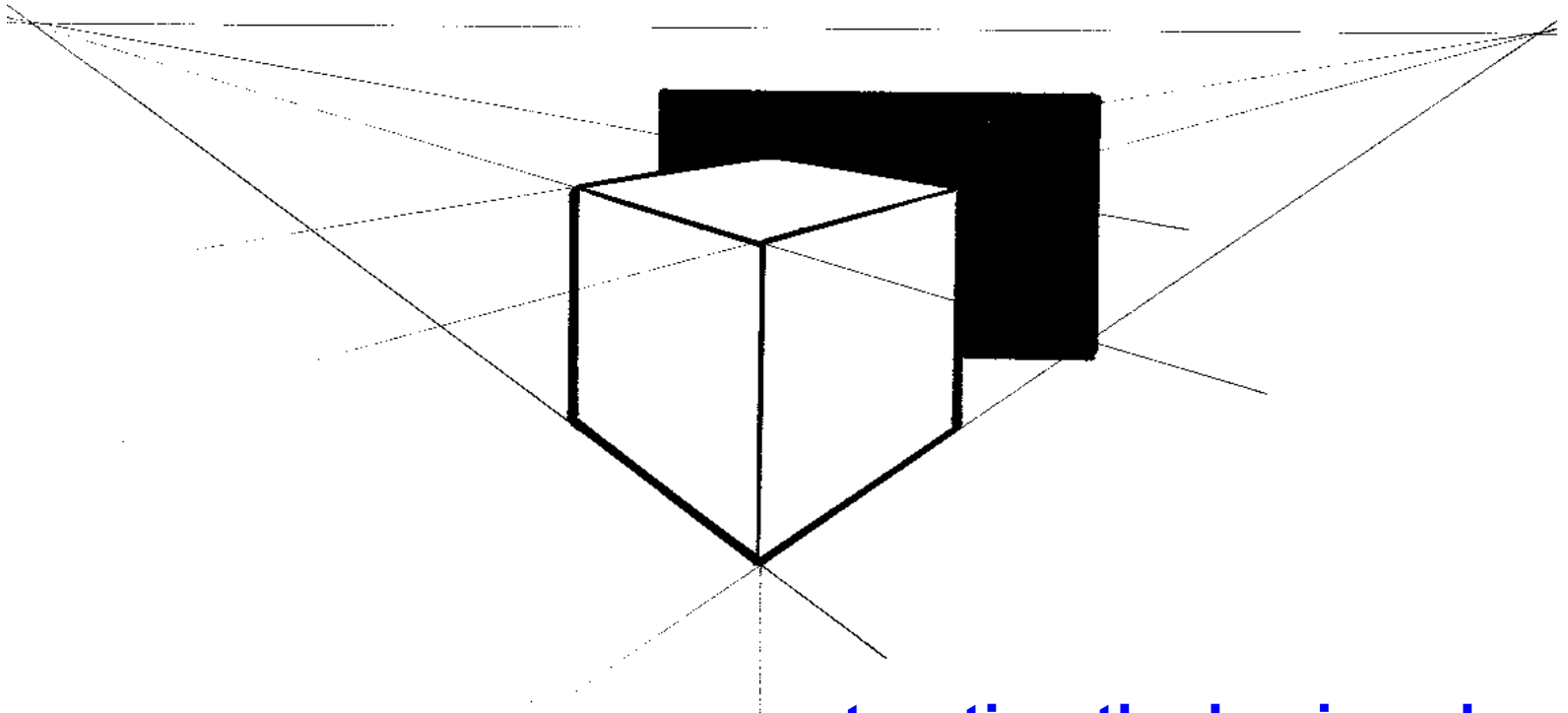
Perspective

"Perspective is nothing else than seeing a place behind a plane of glass, quite transparent, on the surface of which the object behind the glass are to be drawn".

Leonardo Davinci

Learning The Rules (grammar)

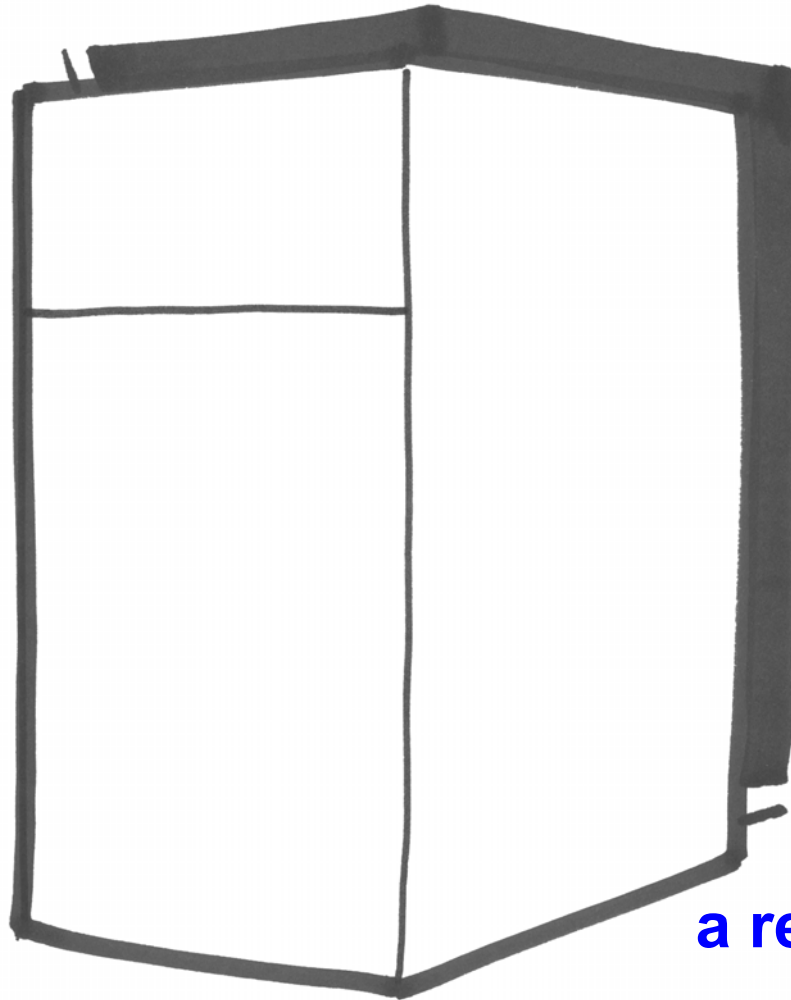
Two point perspective



constructing the basic cube

Learning The Rules (grammar)

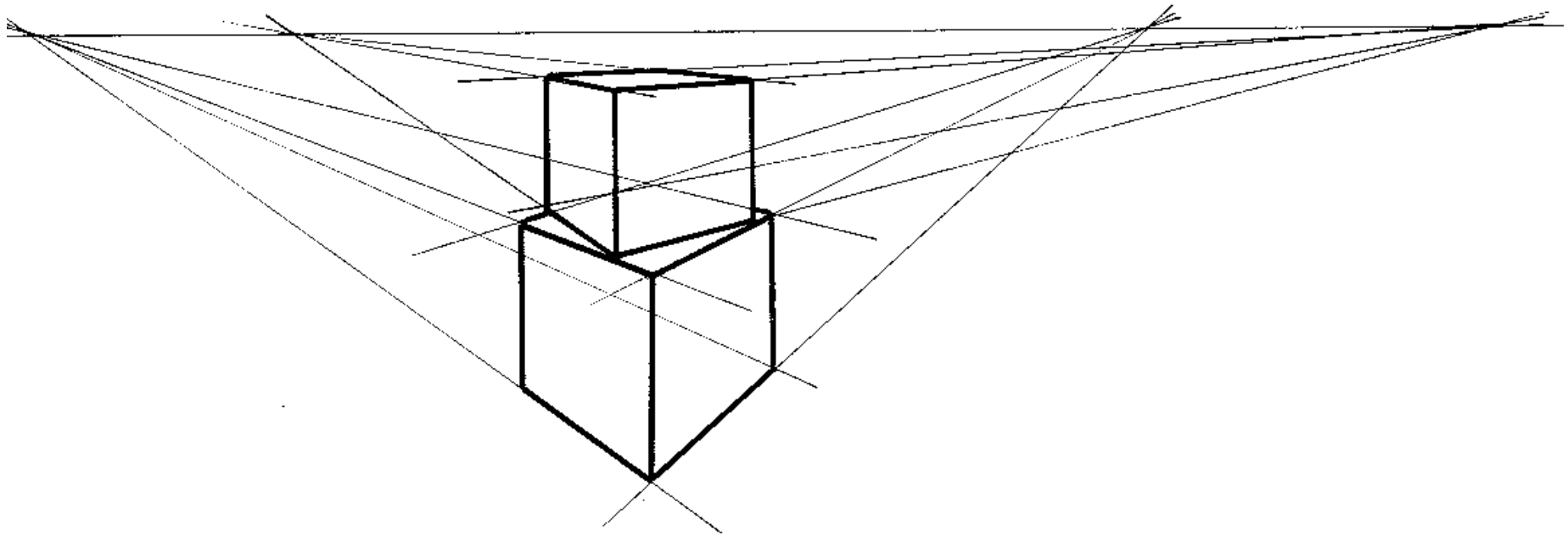
Position relative to horizon



a refrigerator?

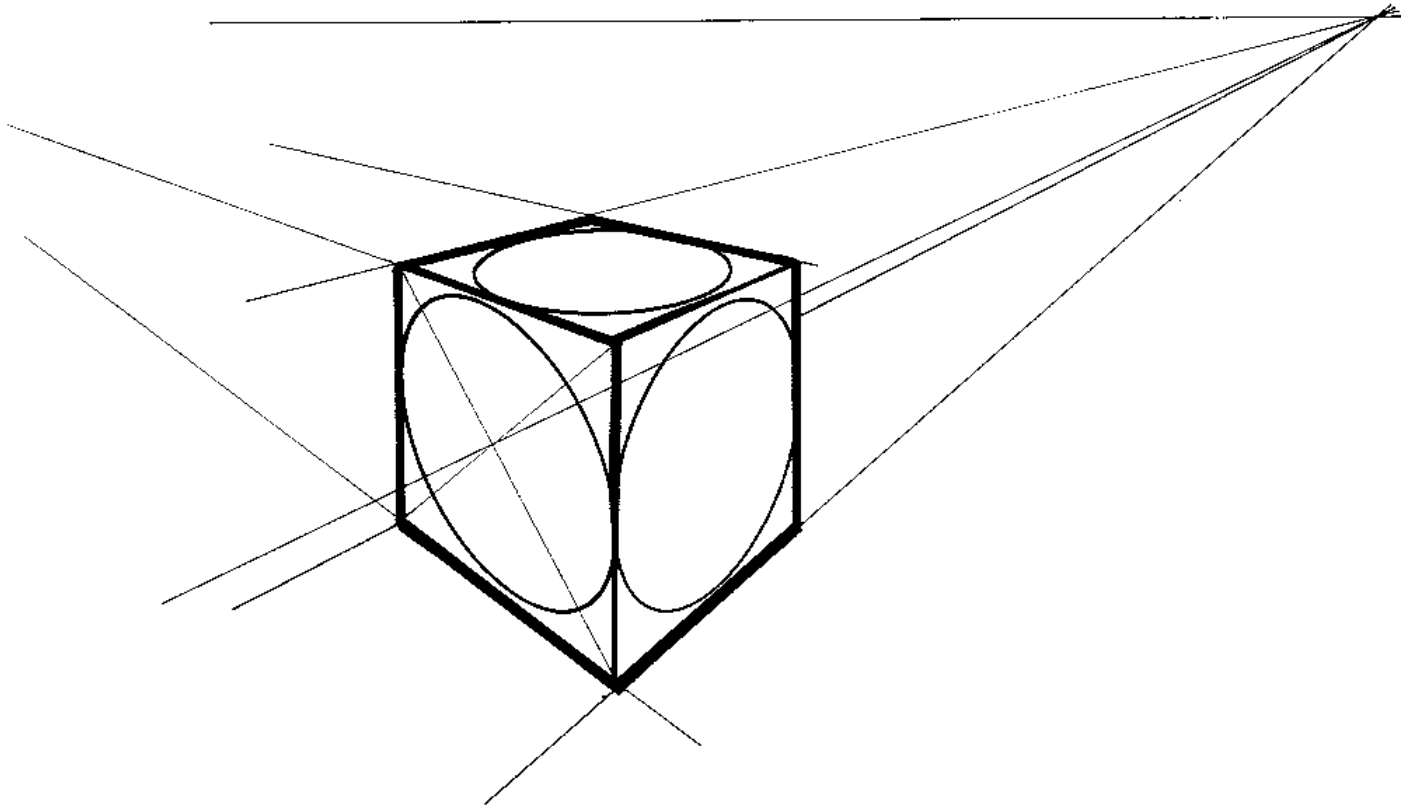
Learning The Rules (grammar)

Cube on a cube



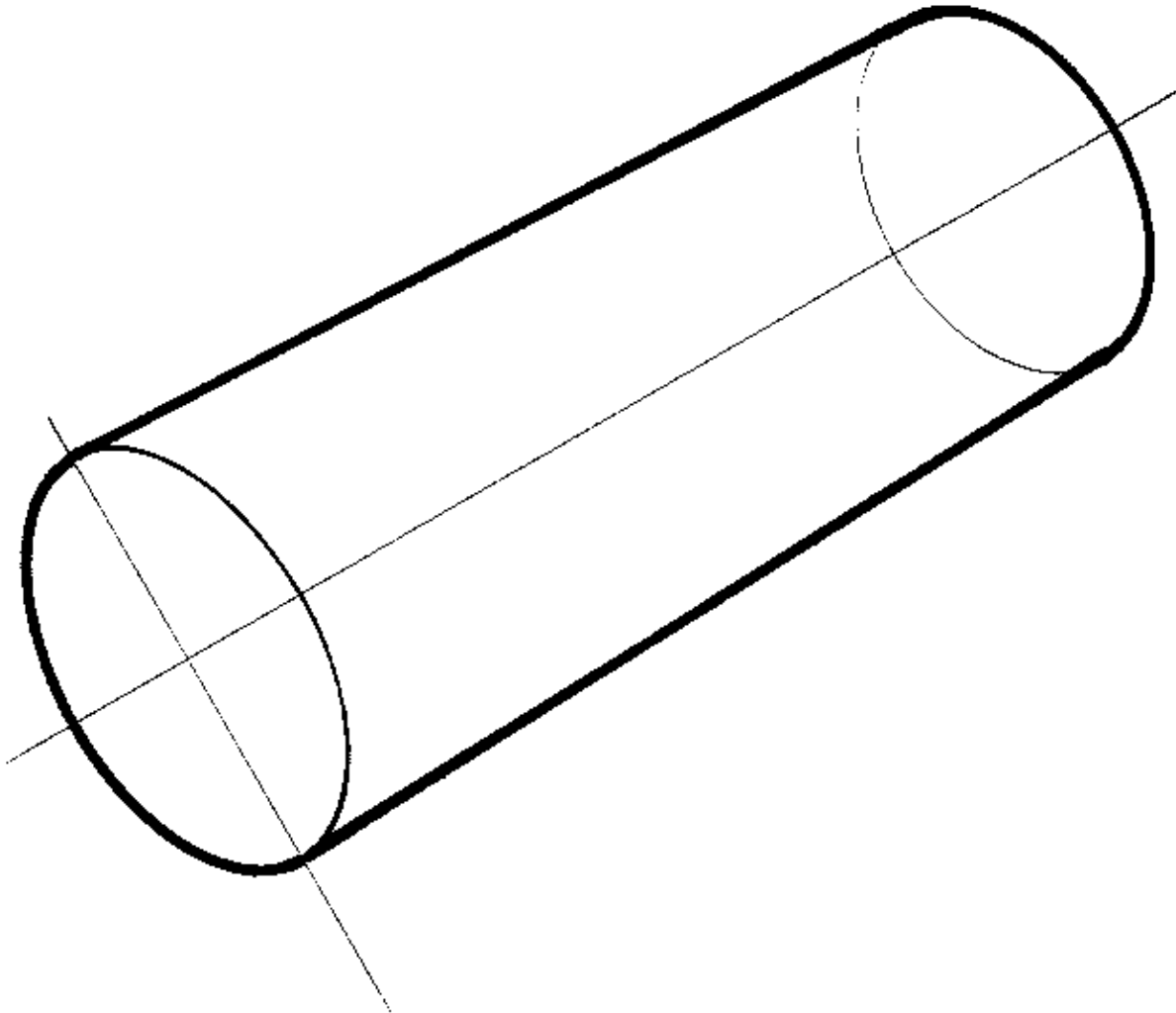
Learning The Rules (grammar)

Orienting circular features



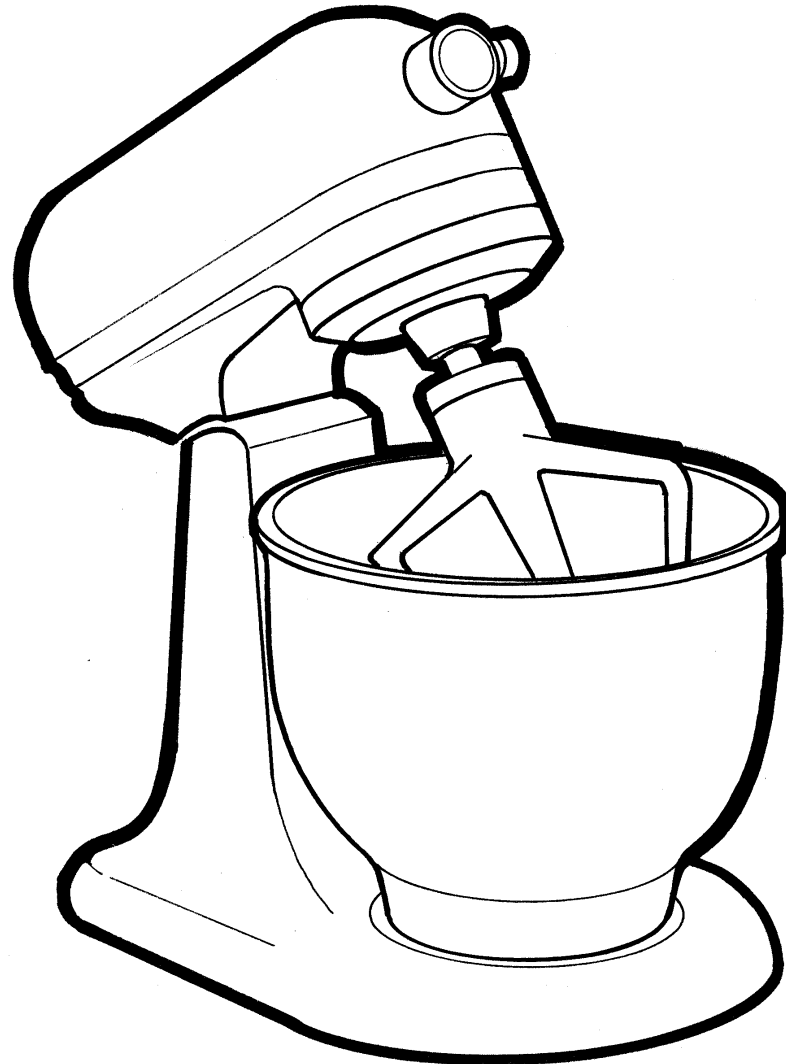
Learning The Rules (grammar)

Cylinders



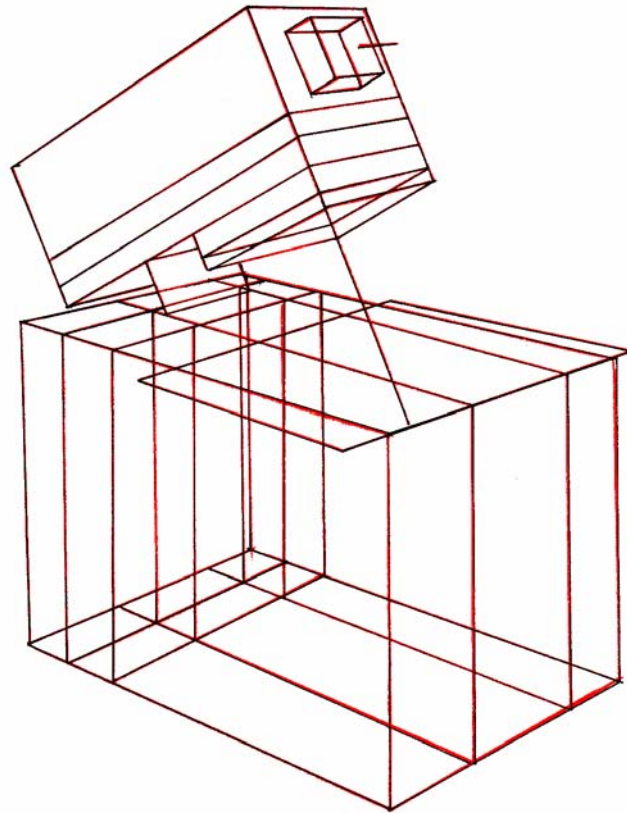
Drawing A Product

Process



Drawing A Product

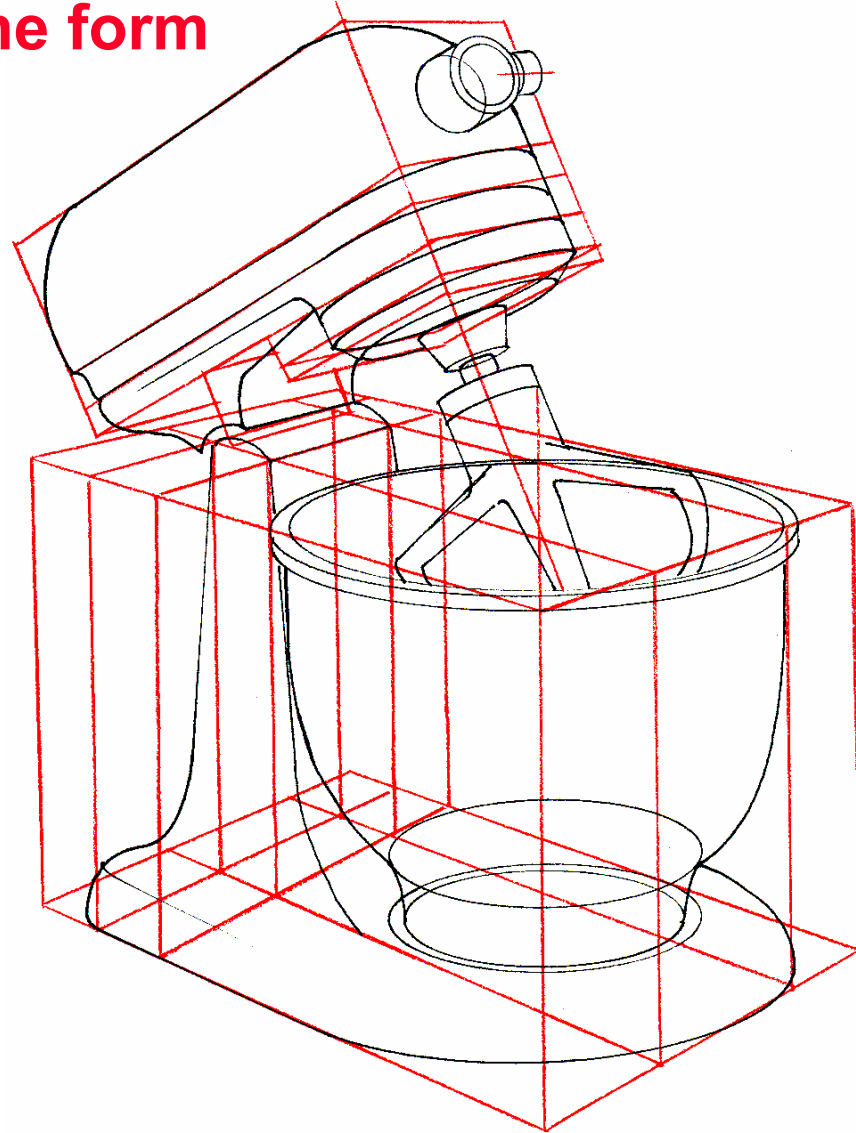
Step 1: Block out proportions using cubes



you may want to create an underlay

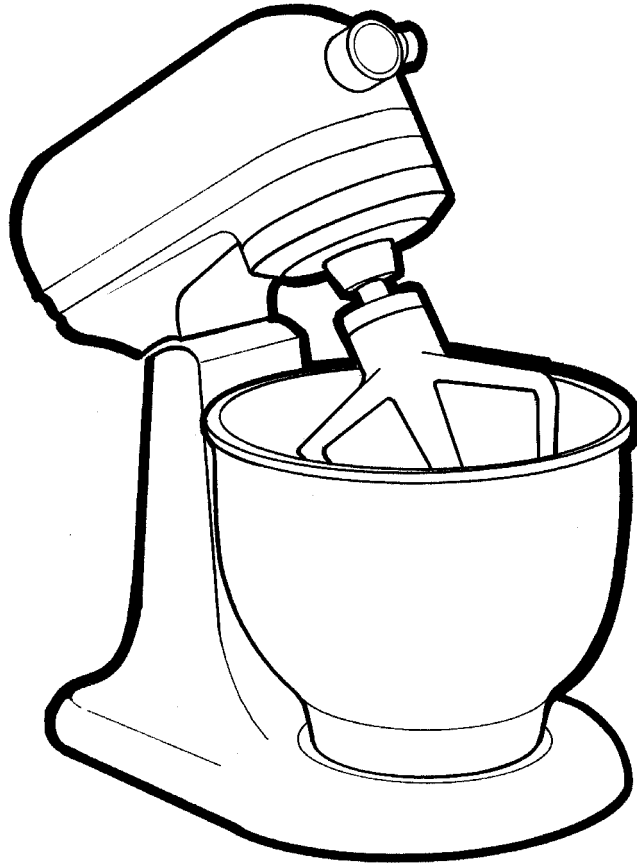
Drawing A Product

Step 2: Sketch in the form



Drawing A Product

Step 3: Sketch in the form



on an overlay?

Homework

Needs review and sketching

Needs review, due Monday Feb. 24

Sketching, due Wednesday Feb 26

<http://web.mit.edu/2.744/www/CourseInformation/Assignment.htm>

Home Practice Exercise

Cubes in different orientations

