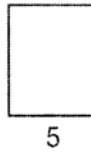


PROPORTIONING

GOLDEN MEAN ~ 5:8

(length to width proportions for cases & cabinets) 8

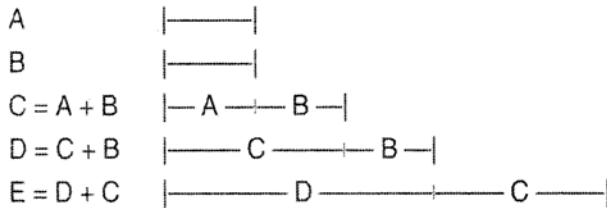
Multiply short leg by 1.618 = long leg



FIBONACCI SERIES (1, 1, 2, 3, 5, 8, 13, 21, ...)

A function of the Golden Mean

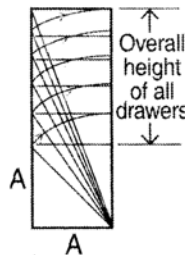
(Each successive number is the sum of the preceding two numbers.) Proportioning for projects like a chest of drawers or a set of shelves.



HAMBRIDGE PROGRESSION

(i.e. calculating graduated drawer heights)

1. Make square $A \cdot A$ (A = drawer width)
2. Strike arc from square $A \cdot A$'s diagonal
3. Draw horizontal line from intersection of arc and vertical line



Note that you cannot pre-select the total height of all drawers. Final height of the drawers is a function of the number of drawers and drawer width.

FORMULAS

Decimal = mm x .03937

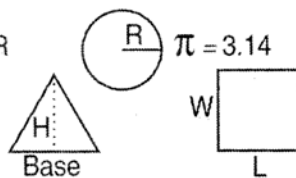
Millimeter = decimal x 25.4

Circumference of circle = π x 2R

Area of circle = π x R^2

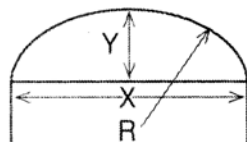
Area of triangle = $1/2$ B x H

Area of square = L x W

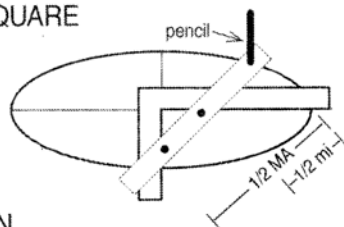
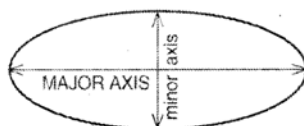


LAYOUT SIMPLE ARCH

$$\frac{(X/2)^2 + Y^2}{2Y} = R$$



LAYOUT ELLIPSE WITH A SQUARE



BOARD FOOT CALCULATION

Length (inches) x Width (inches) x Thickness (inches)

DESIGN CRITERIA FOR FURNITURE

Seating dimensions → 24" - 30" elbow to elbow

at dining table

24" - 25" leg clearance (floor to apron)

Table edge to back of plate - 12"

Round table - 30" circumference per seating

Table height - 29" - 30"

Chair seat height - ~17"

Coffee table height - 16" - 18"

Stool height - 29" - 32"

Single (twin) mattress - 39" x 75"

Double (full) mattress - 54" x 75"

Queen mattress - 60" x 80"

King mattress - 76" x 80"

MAXIMUM SPAN FOR SHELVING

3/4" MDF	28"
3/4" Plywood	32"
3/4" Softwood	34"
3/4" Hardwood	40"
1" Softwood	34"
1" Hardwood	46"

SOLVENTS FOR FINISHES

Varnish, oil, spar, linseed oil, → mineral spirits, naphtha, polyurethane, tung oil, wax turpentine

Lacquer → lacquer thinner, acetone

Shellac → denatured alcohol

Waterborne → distilled water

MIXING SHELLAC FLAKES TO ALCOHOL

1 pound cut = 1lb. flakes + 1 gal. alcohol

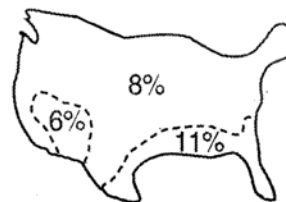
3 pound cut = 3lb. flakes + 1 gal. alcohol

PILOT HOLE WOOD SCREWS

Screw Size	Softwood	Hardwood	Shank Hole
#4	5/64"	5/64"	7/64"
#6	1/16"	3/32"	9/64"
#8	5/64"	7/64"	11/64"
#10	3/32"	1/8"	3/16"
#12	3/32"	9/64"	7/32"
#14	7/64"	5/32"	1/4"

When screwing 2 pieces of wood together, the top piece should be drilled for the screw shank to slip through easily.

FURNITURE MOISTURE CONTENT IN UNITED STATES



BANDSAW BLADE GUIDE

Blade Width	Minimum Cutting Radius
3/4"	5-7/16"
1/2"	2-1/2"
3/8"	1-7/16"
1/4"	3/8"
3/16"	5/16"
1/8"	1/8"
1/16"	90°