



Advanced Woodworking

**Project Book 1-Chapter 2:
Layout and Measurement Tools**

April 16, 2020



9-12/ Advanced Woodworking
Project Book 1-Chapter 2: [April 16, 2020]

Objective/Learning Target:

Students will learn about different measuring/layout tools and how to use them properly.

MEASURING, MARKING AND LAYOUT TOOLS

What You Now Know

- Tools make it easier to accomplish a task
- Safety is an important part of tool use

What You Will Know

- Why tools are so important to a carpenter
- How to use measuring, marking, and layout tools

SHOWING RESPECT FOR TOOLS

WHAT IS A TOOL?

-ANY OBJECT OR DEVICE THAT MAKES IT EASIER TO ACCOMPLISH A TASK

SHOWING RESPECT FOR TOOLS-CONTINUED

IMPORTANCE OF USING TOOLS WITH CARE

- TOOLS SHOULD BE SHOWN PROPER RESPECT
- KEEP TOOLS CLEAN
- PROPERLY STORE ALL TOOLS

IMPORTANCE OF TOOL SAFETY

- PROFESSIONALS KNOW HOW TO USE TOOLS SAFELY

TYPES OF TOOLS

- CARPENTERS USE A BROAD RANGE OF TOOLS

TOOLS USED FOR MEASURING, MARKING AND LAYOUT

LINEAR MEASUREMENTS

- LINEAR MEANS RELATING TO A STRAIGHT LINE
- LINEAR MEASUREMENT IS THE LENGTH OF A STRAIGHT LINE

HOW MEASURING TOOLS ARE MARKED

- THE EDGES OF MOST MEASURING TOOLS ARE MARKED IN INCHES AND FRACTIONS OF AN INCH.

RETRACTABLE TAPE MEASURE

RETRACTABLE TAPE MEASURE MARKINGS

- BLADE MARKED OFF IN FEET, INCHES, AND FRACTIONS OF AN INCH
- INCH MARKS BETWEEN EACH FOOT MARK
- INCH MARKS ARE 1 THROUGH 11
- AFTER THE MARK FOR FIRST FOOT, INCH MARKS ARE SMALLER AND USUALLY ANOTHER COLOR
- LARGER NUMBERS INDICATE THE TOTAL NUMBER OF INCHES FROM THE BEGINNING OF THE TAPE

COMBINATION SQUARE

THE COMBINATION SQUARE CAN HELP TO MANAGE THE FOLLOWING TASKS:

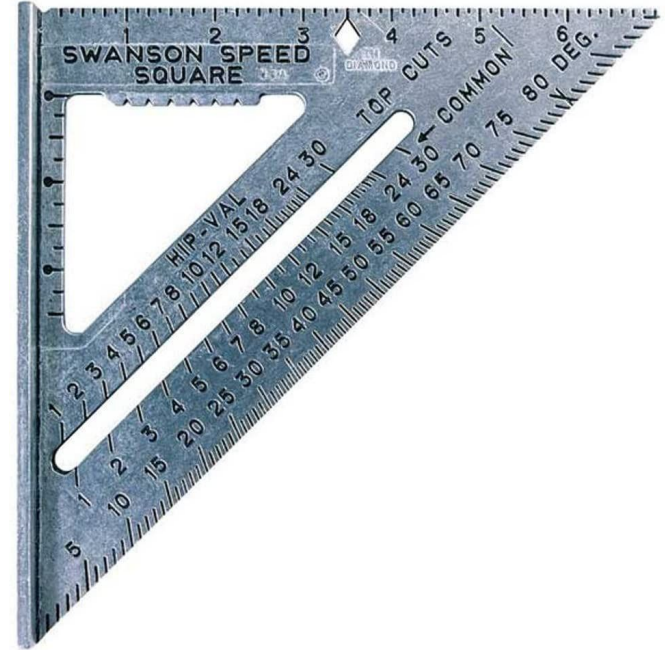
- MEASURE LENGTH, WIDTH, AND DEPTH
- LAY OUT 90° ANGLES AND 45° ANGLES
- LAY OUT AND MARK DIAGONAL AND PARALLEL LINES
- TEST FOR SQUARE OR THE ACCURACY OF 90° ANGLES BOTH INSIDE AND OUTSIDE OF AN OBJECT



SPEED SQUARE

THREE-SIDED LAYOUT TOOL THAT I USED TO:

- DRAW STRAIGHT LINES
- LAY OUT ANGLES
- GUIDE THE CUTS OF SAWS
- THIS TOOL IS EASY TO STORE AND CARRY AROUND IN A WORK AREA.



COMPASS

.PRECISION INSTRUMENT USED TO:

= LAY OUT CIRCLES AND ARCS

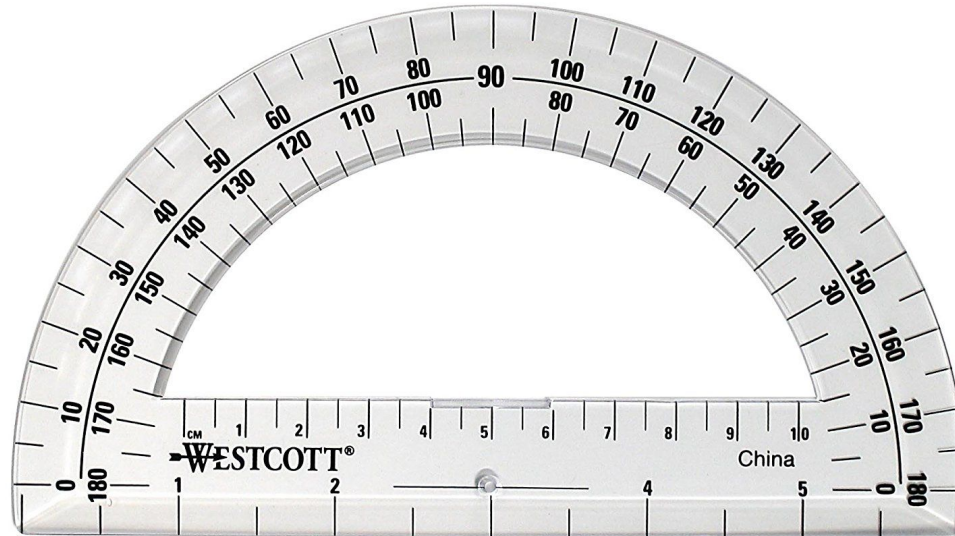
- CONSTRUCT LINES AND ARCS

- TRANSFER IRREGULARITIES OF VARIOUS MATERIALS OR COMPONENTS



PROTRACTOR

- CIRCLE DIVIDED INTO 360 INDIVIDUAL DEGREES
- USED TO DEFINE AN ANGLE AND MEASURE PORTIONS OF AN ARC



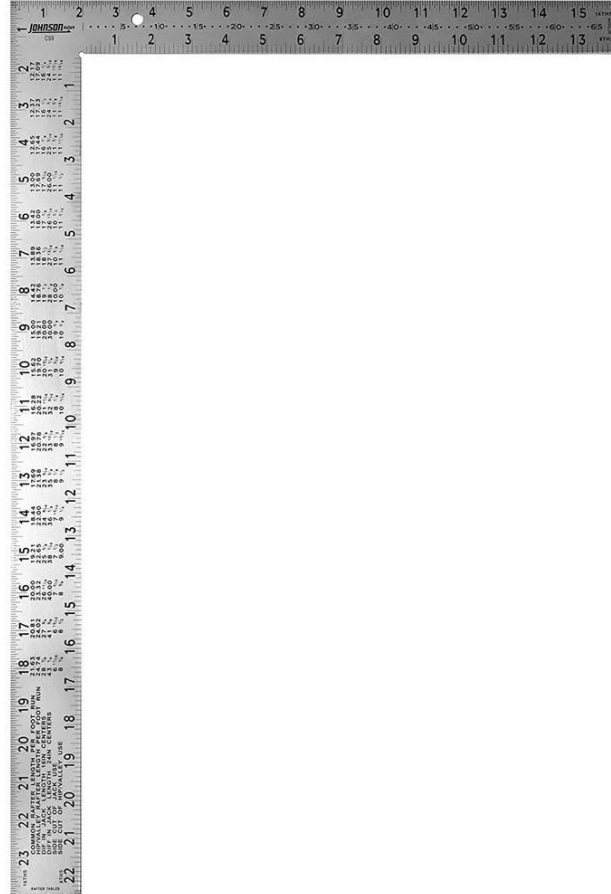
SLIDING T-BEVEL

- METAL BLADE ATTACHED TO A WOOD OR METAL HEAD WITH A LOCKING DEVICE
- SLOT IN BLADE ALLOWS THE LENGTH AND ANGLE TO BE ADJUSTABLE



FRAMING SQUARE

- FLAT, L SHAPED MEASURING AND LAYOUT TOOL
- USED TO CHECK AND MARK 90 DEGREE ANGLES
- BODY IS 24" LONG AND 2" WIDE
- TONGUE IS 16" LONG AND 1.5" WIDE



STRAIGHT EDGE AND CHALK BLOCK

STRAIGHT EDGE

- ONLY USEFUL FOR DRAWING RELATIVELY SHORT LINES OR EXTENDING AN EXISTING LINE

CHALK BOX

- STRING WOUND INSIDE A CONTAINER FILLED WITH POWDERED CHALK

- STRING HITS THE SURFACE OF THE MATERIAL AND LEAVES A VERY STRAIGHT LINE