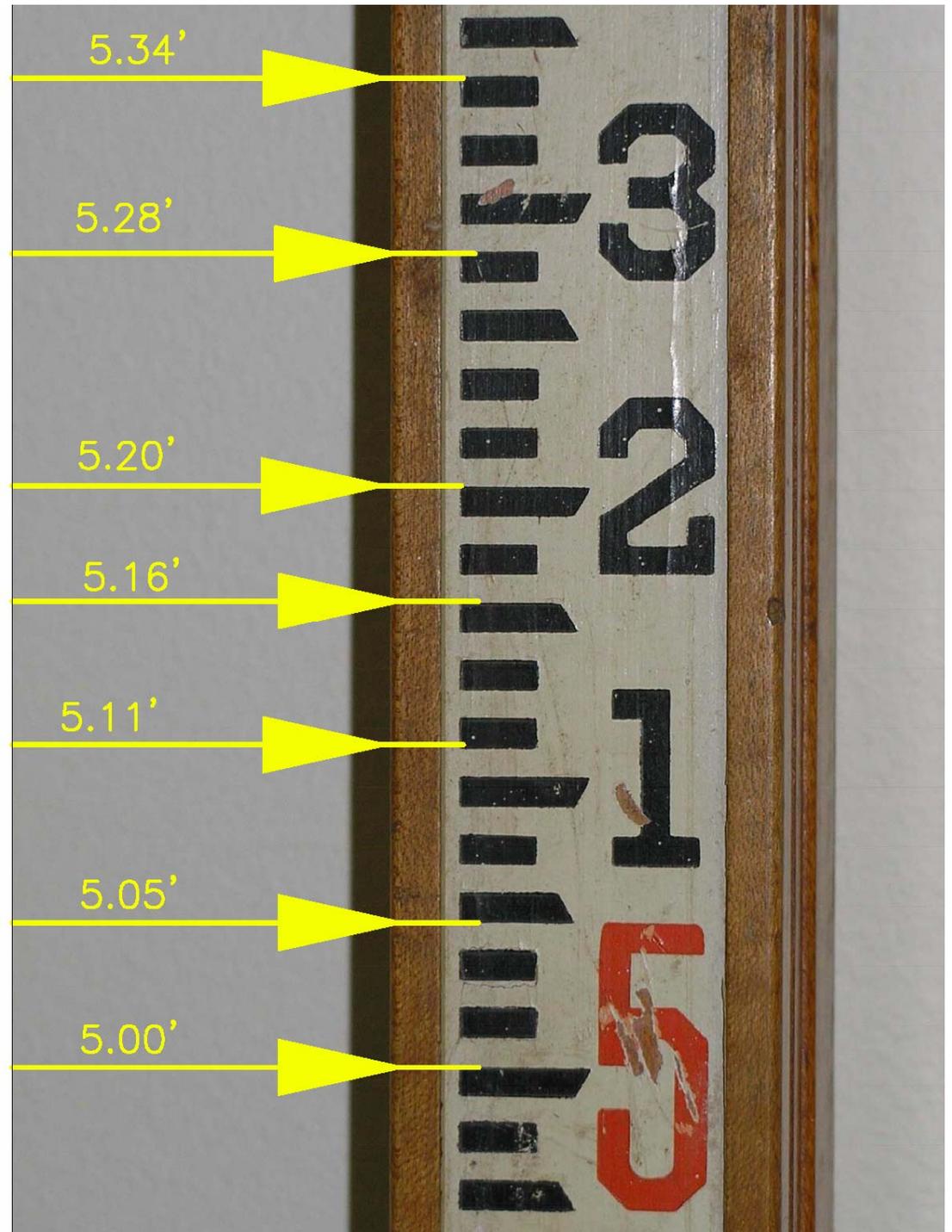
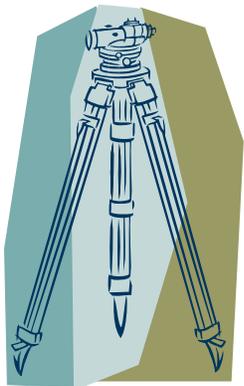


# Examples



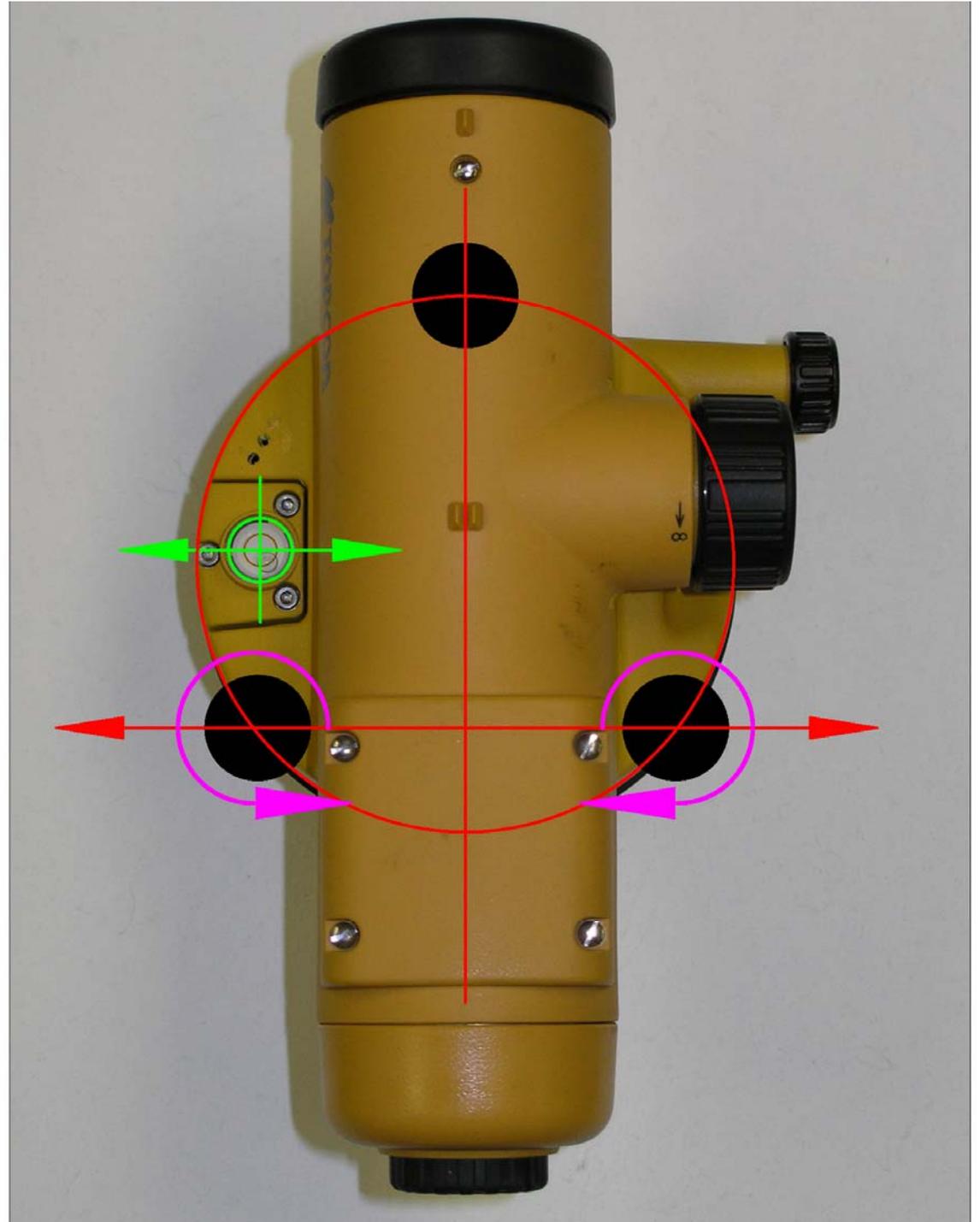
# Setting Up a Level

- Set the tripod up at a comfortable height
- Do not spread the legs too far.
- Level the tripod plate, by eye, using the legs
- Mount the level onto the tripod
- Align the sight tube over an adjustment screw as shown in the following slides



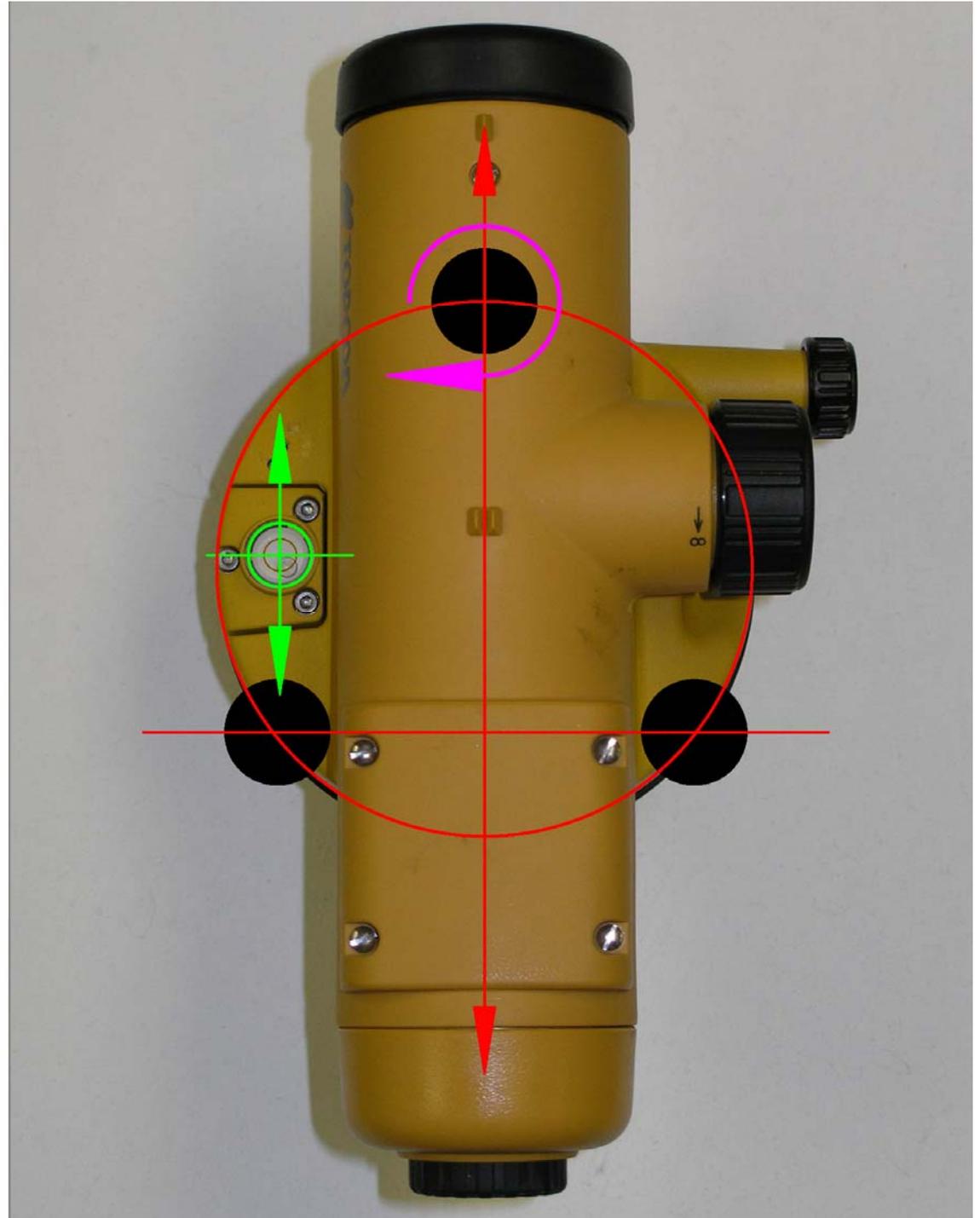
# Setting Up

- Using the rear 2 adjustment screws, move the level bubble right or left until the bubble is centered on a line that is through the center of the bullseye level and parallel to the Level tube.



# Setting Up

- Using the front adjustment screw, move the level bubble forward and back until the bubble is centered on the bullseye level



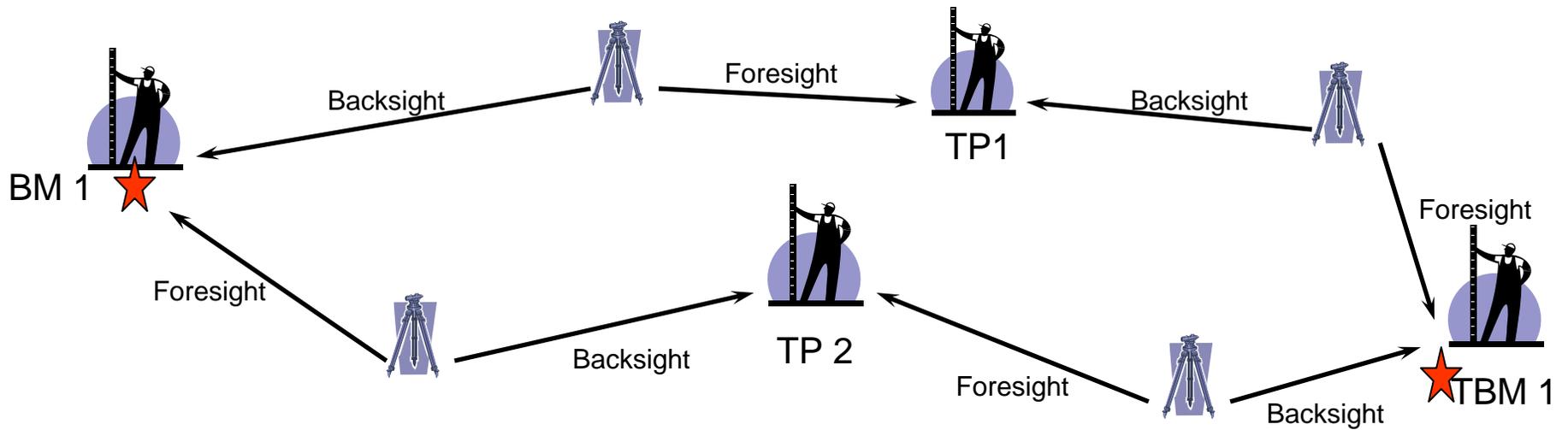
# Note Keeping

- **Do Not Erase!** Draw a single line through the mistake and write the correction above the mistake.
- **Be Neat!** Messy field books lead to mistakes.
- **Be Consistent!** Confusion leads to mistakes.
- **Do Not Write Brief Descriptions!**  
If you run out of field books we will get you more.
- **A Picture (sketch) is Worth 1,000 Words!**  
Sketch your surveys. On the sketch note, stations, unusual conditions, buildings, roads, wells, power lines, etc.





# Bench Level Circuit

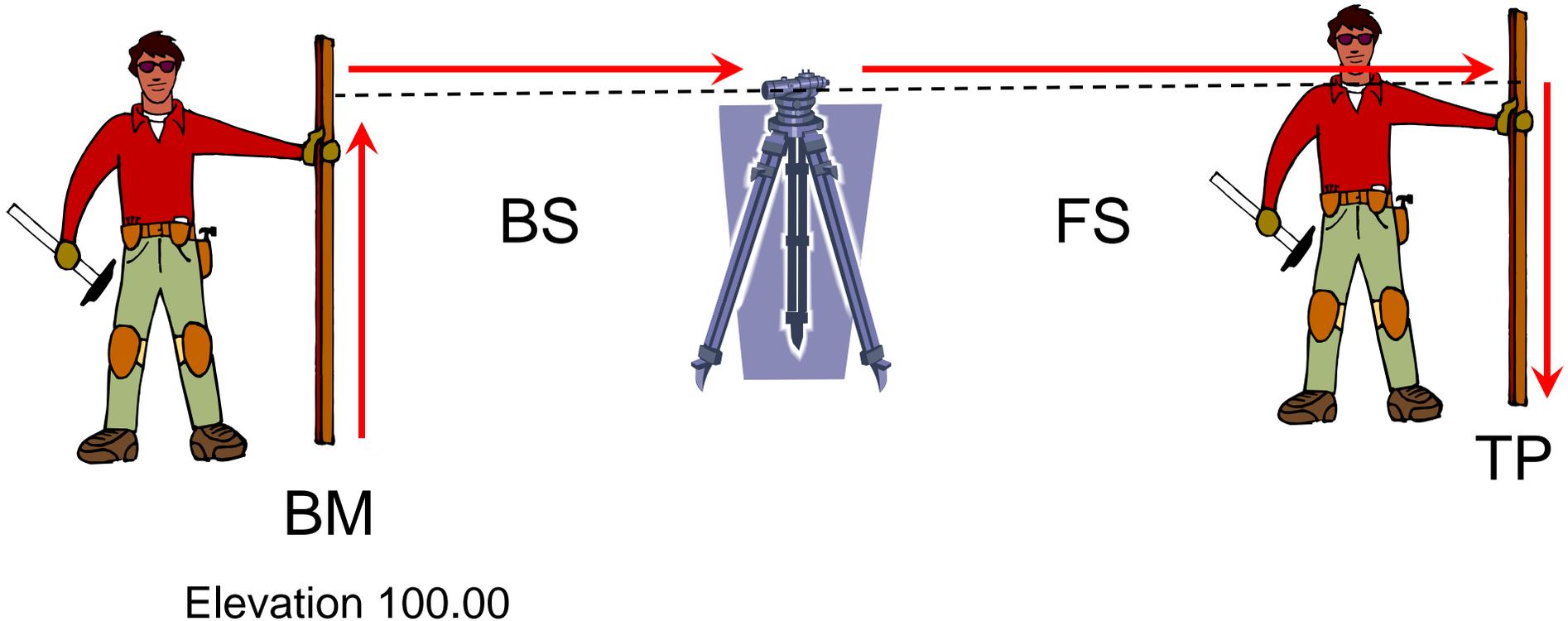


# Backsights? Foresights?

## Who Can Understand this Stuff?

Backsights transfer elevations from a known elevation to the instrument

Foresights transfer elevations from the instrument to a point



# Slope

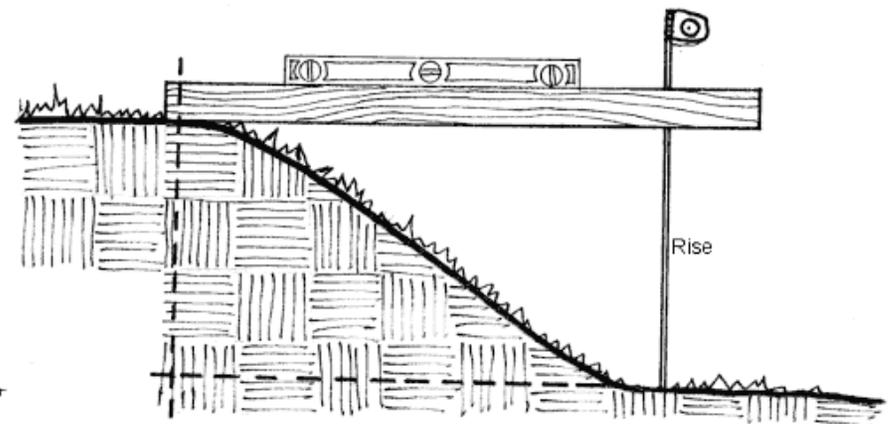
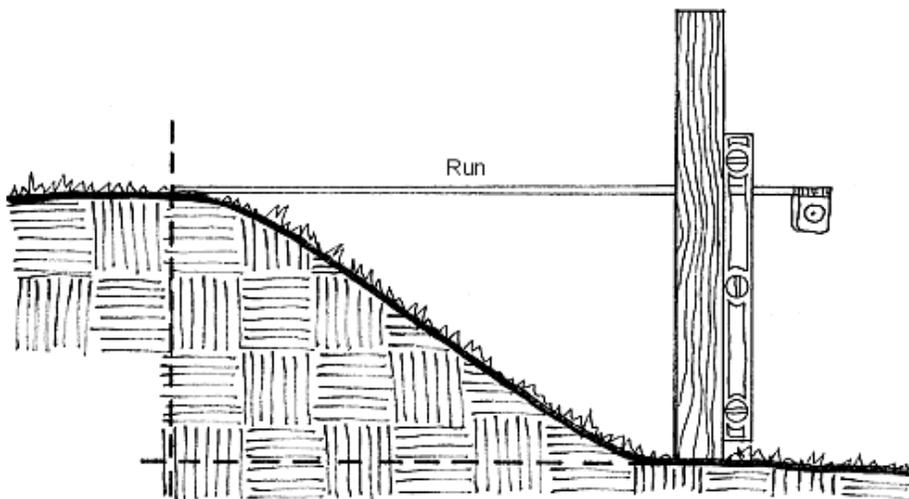
Slope is a ratio of horizontal distance (run) to vertical distance (rise).

Slope = Run : Rise

2:1 slope = 2' run to 1' rise

Calculation method:  $\text{Run/Rise} = \text{Run:1}$

Example  $24'\text{run}/3.2'\text{rise}=8.44:1$  slope



# Grade

Grade is a way to express rise (or fall) per 100 feet of run.

How to calculate Grade:

$$\frac{\text{Feet Rise}}{\text{Feet Run}} \times 100 = \text{Grade (\%)}$$

Example (1.5' rise/95' run) x 100 = 1.58% grade

Which means for every 100' of run the ground will rise 1.58'.

