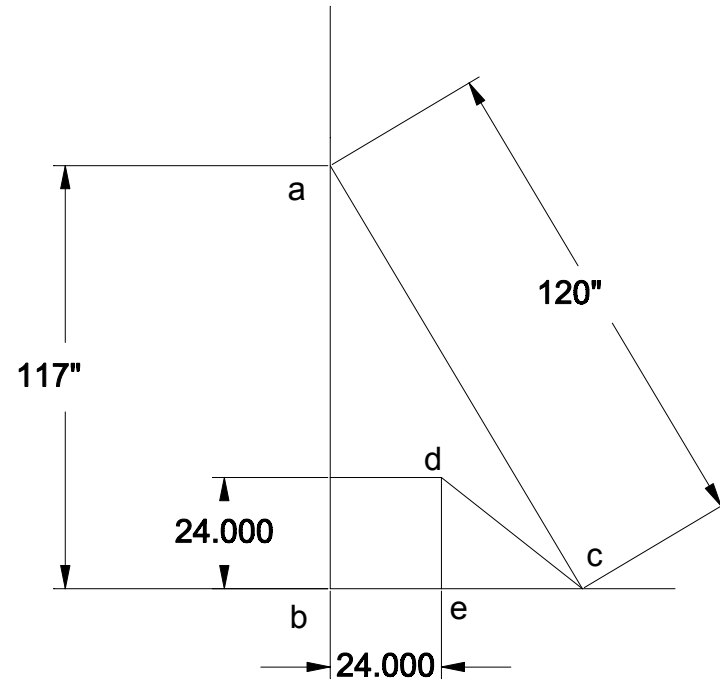


In this configuration angle A and A1 are equal. and the highest point at which the ladder could touch the wall is 120 inches if it was standing straight up



If we slide the base of the ladder to the right the top of the ladder drops along the wall. Lets assign an arbitrary value to X of 117"

we can easily solve for angle d.

So, we know from the illustration at the left that when angle a and d are equal we will know the height of the top of the ladder as it leans against the wall.

All we have to do now is try different values for X until the see how I did this.