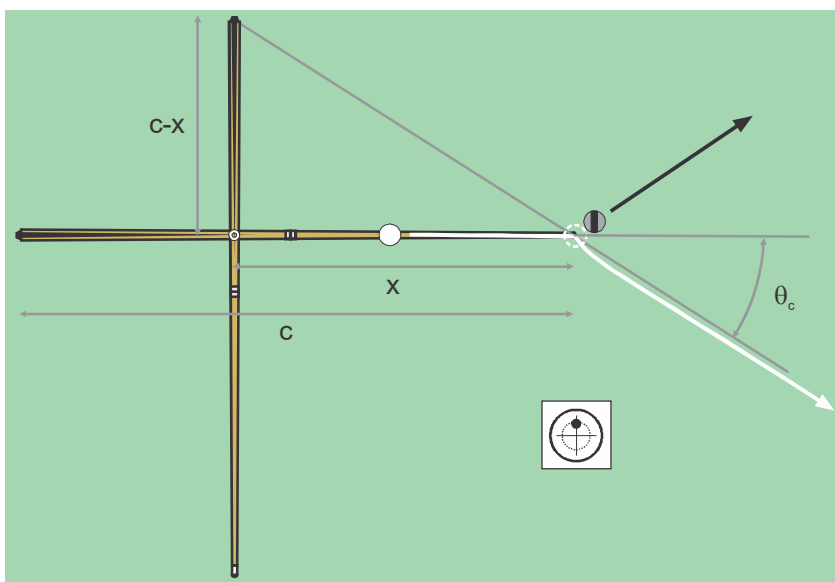


TP B.23 Cue Pivot Point Required for Known CB Carom Angle

supporting:
 “The Illustrated Principles of Pool and Billiards”
<http://billiards.colostate.edu>
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This technique is from Bob Jewett's January, 2021 Billiards Digest column. If you pivot the cue 90deg about a certain point along the aiming line, with the tip starting at the ghost ball, a line through the butt of the cue and the ghost-ball will point in the final CB direction for a rolling-CB shot.



standard
cue length:
 $c := 58 \cdot \text{in}$

The CB deflection angle (θ_c) is related to the pivot point (x) and cue length (c) with:

$$\tan(\theta_c) = \frac{(c - x)}{x}$$

So the required pivot point to create a known CB deflection angle is:

$$x(\theta_c) := \frac{c}{\tan(\theta_c) + 1}$$

Using the CB deflection angles (θ_c) for standard ball-hit-fractions (f) from page 8 in TP A.6, the required pivot distances from the tip for a standard-length cue are:

$f := \frac{1}{2}$	$\theta_c := 34 \cdot \text{deg}$	$x(\theta_c) = 34.6 \cdot \text{in}$
$f := \frac{1}{4}$	$\theta_c := 27 \cdot \text{deg}$	$x(\theta_c) = 38.4 \cdot \text{in}$
$f := \frac{3}{4}$	$\theta_c := 28 \cdot \text{deg}$	$x(\theta_c) = 37.9 \cdot \text{in}$

30 degree rule average:

$$\theta_c := 30 \cdot \text{deg}$$

$$x(\theta_c) = 36.8 \cdot \text{in}$$