

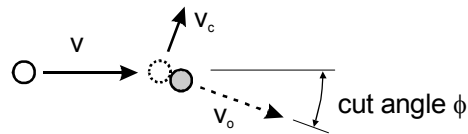


7/10/03



### TP 3.2 Ball speeds after impact

from:  
“The Illustrated Principles of Pool and Billiards”  
<http://billiards.colostate.edu>  
by David G. Alciatore, PhD, PE ("Dr. Dave")



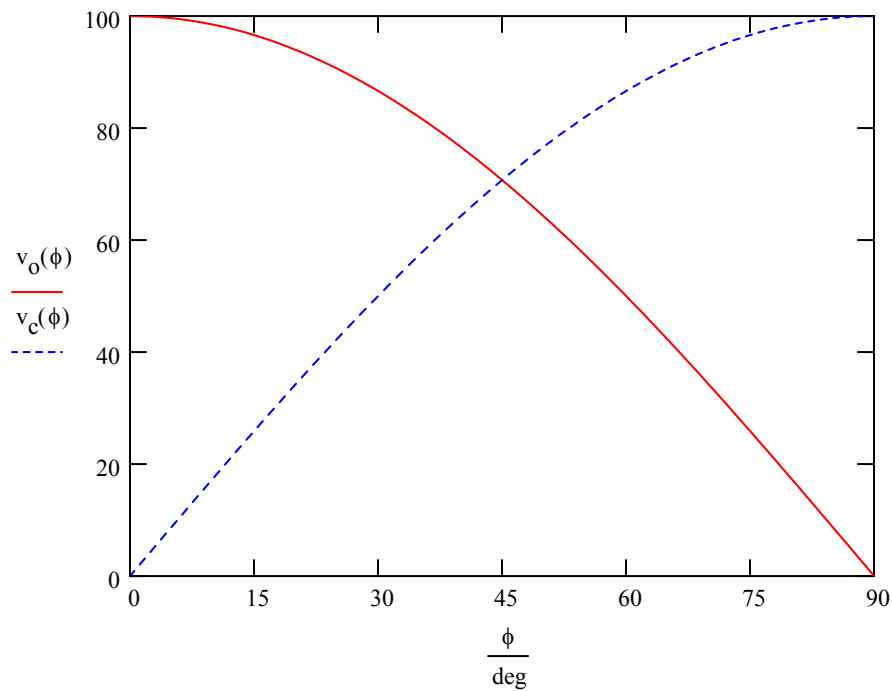
From conservation of momentum (see TP 3.1),

$v := 100$  incoming speed, scaled to 100

$v_o(\phi) := v \cdot \cos(\phi)$  post-impact object ball speed

$v_c(\phi) := v \cdot \sin(\phi)$  post-impact cue ball speed

$\phi := 0\text{-deg}, 1\text{-deg} \dots 90\text{-deg}$



$v_o(20\text{-deg}) = 93.969$

$v_c(45\text{-deg}) = 70.711$

$v_o(70\text{-deg}) = 34.202$

$v_c(20\text{-deg}) = 34.202$

$v_c(45\text{-deg}) = 70.711$

$v_c(70\text{-deg}) = 93.969$