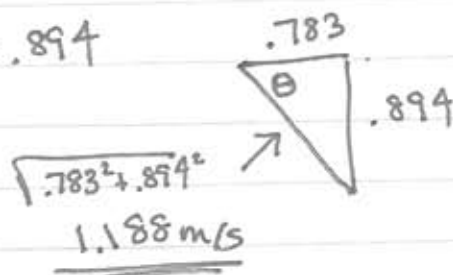


	x East	y North
Before		
①	$(.045)(5.5)\cos 37^\circ$	$(.045)(5.5)\sin 37^\circ$
②	$(.035)(3.3)$	0
③	0	$(.025)(2.2)$
Total	.0822	-.0939
	$(.045 + .035 + .025)V_E$	$(.045 + .035 + .025)V_N$
	.105 V_E	

$$V_E = .783 \text{ m/s} \quad V_N = -.894$$



$$\theta = \tan^{-1}\left(\frac{.894}{.783}\right) = 48.79^\circ$$

South of East

$$\text{Energy before} = \frac{1}{2}(.045)(5.5)^2 + \frac{1}{2}(.035)(3.3)^2 + \frac{1}{2}(.025)(2.2)^2$$

$$.9317 \text{ Joules}$$

$$\text{Energy after} = \frac{1}{2}(.105)1.188^2 = .0741 \text{ Joules}$$

lost .8576 Joules - became heat + sound