1. (25 points) Below is shown a 5 kg box sliding on a slope and then flying off of a ledge. Please determine the speed (not the velocity vector), v_3, upon landing.

$v_1 = 4$ m/s

5 kg box
$\mu = .2$ on slope

$v_2 = ?$

20°

10 m

8 m

(Speed v_3)
$v_3 = ?$

$v_1 = 4$ m/s

5 kg box
$\mu = .2$ on slope

$v_2 = ?$

20°

10 m

8 m

(Speed v_3)
$v_3 = ?$