

2D Elastic Collisions – Assignment

Name: _____

Date: _____

Question 1

A ball with a mass of 180 g is rolling at 49.5 cm/s [R 8° U] and collides with another ball with the same mass which is initially at rest. After the collision the second ball is moving at 43.5 cm/s [R 18° D].

Determine the speed and direction of the first ball after the collision.

Question 2

The diagram below shows a cue ball hitting a stationary target ball (glancing collision). Each ball has a mass of 1.5 kg and the initial velocity of the cue ball is 8.0 m/s. The directions of both balls after the collisions are shown. Determine the final velocity of each ball after the interaction.

