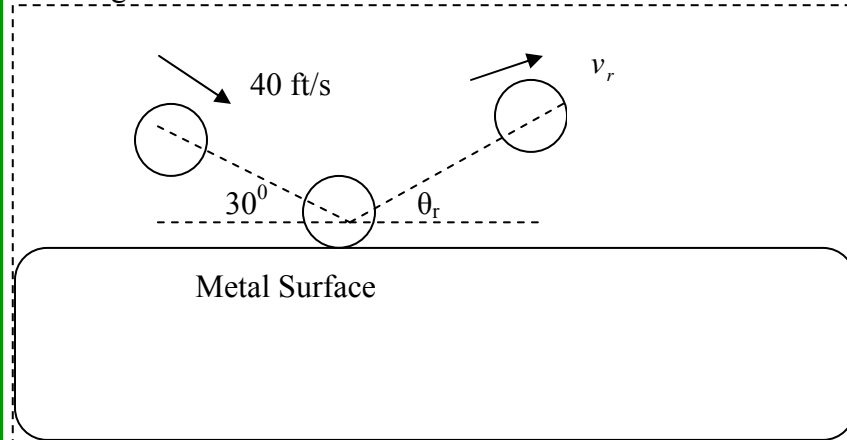


TOPIC

Engineering Mechanics (Statics and Dynamics)

QUESTION

A steel ball falls on a large metal surface with a velocity of 40ft/s at an angle of 30° .



The rebound velocity in ft/s of the ball is most nearly (assume a coefficient of restitution between the ball and plate to be 0.47)

- (A) 9.400
- (B) 18.80
- (C) 34.64
- (D) 35.89

HINT

The coefficient of restitution, e is given by

$$e = \frac{|\text{Relative vertical velocity at separation}|}{|\text{Relative vertical velocity at approach}|}$$

Now, equate the momentum in the x -direction.

ANSWER

(D)

CONTRIBUTOR

This question of the day was provided by the courtesy of Professor [Autar Kaw](#) of the [University of South Florida](#) from the book [Fundamentals of Engineering Examination Sample Questions General Engineering](#).

If you disagree with the way the question is posed or disagree with the correct answer, please [let us know](#).