

8 A football of mass 0.42 kg is travelling towards a player at 3.0 m s^{-1} .

The player kicks the ball with an impulse of 6.3 N s , returning it in the direction of approach.

What is the new speed of the ball?

A 4.6 m s^{-1}

B 6.2 m s^{-1}

C 12 m s^{-1}

D 18 m s^{-1}