8 An astronaut has a weight of 660 N when she is standing on the Earth's surface.

The acceleration of free fall on the surface of Mars is 3.71 m s^{-2}.

What would be the weight of the astronaut if she stood on the surface of Mars?

A 67.3 N **B** 178 N **C** 250 N **D** 660 N

9 A mass m_1 travelling with speed u_1 collides with a mass m_2 travelling with speed u_2 in the same direction. After the collision, mass m_1 has speed v_1 and mass m_2 has speed v_2 in the same direction. The collision is perfectly elastic.

before the collision after the collision

Which equation is **not** correct?

A $m_1u_1^2 - m_1v_1^2 = m_2v_2^2 - m_2u_2^2$

B $v_2 + u_2 = v_1 + u_1$

C $m_1(u_1 - v_1) = m_2(v_2 - u_2)$

D $m_1(u_1 - v_1)^2 = m_2(u_2 - v_2)^2$