10 An astronaut on the surface of the moon drops a ball from a point 2 m above the surface.

(a) Without any calculations, explain why a standard model using $g = 9.8 \text{ms}^{-2}$ will not be appropriate to model the fall of the ball. **[1]**

The ball takes 1.6 s to hit the surface.

(b) Find the acceleration of the ball which best models its motion. Give your answer correct to 2 significant figures. **[2]**

(c) Use this value to predict the maximum height of the ball above the point of projection when thrown vertically upwards with an initial velocity of 15ms^{-1}. **[2]**