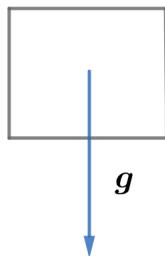# 2020B F=ma Exam: Problem 4

Kevin S. Huang

Recall the effective weight is zero in free fall so $\vec{a} = -\vec{g}$ (pointing down). Since $a = \frac{d^2x}{dt^2}$, the concave down region $(b \to d)$ on the position-time graph is where acceleration is negative. Thus, the answer is $\boxed{\text{C}}$.