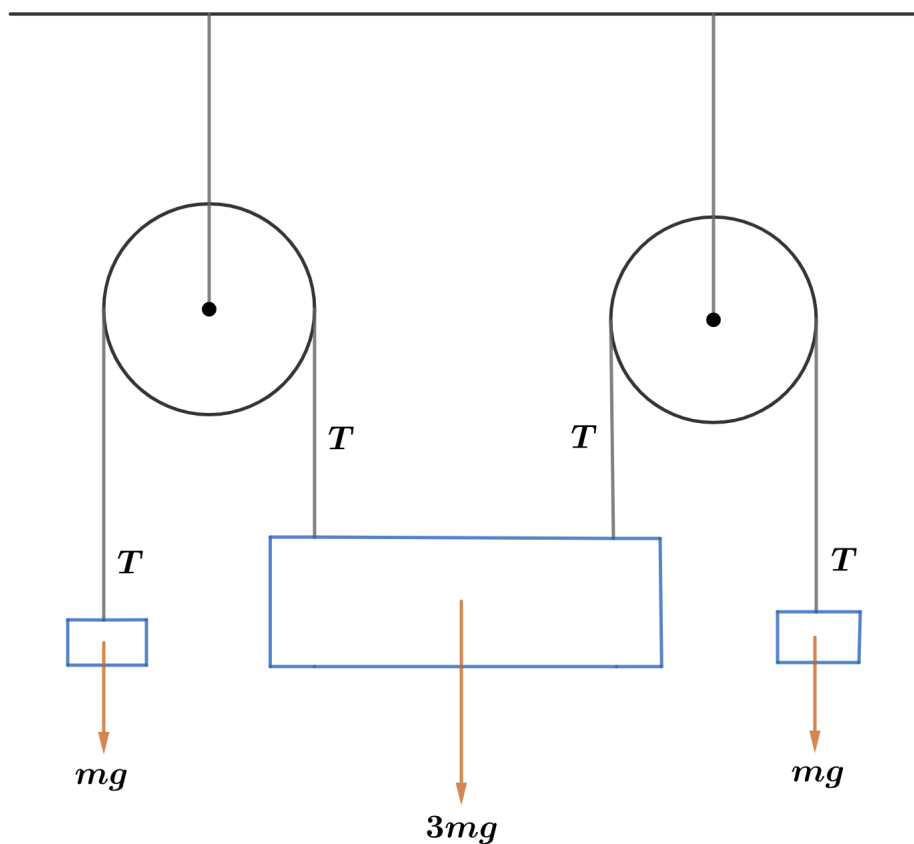# 2023 F=ma Exam: Problem 5

Kevin S. Huang

Applying Newton's 2nd law to the blocks and using the fact that they move together with the same acceleration (middle block down and side blocks up), we have

$$T - mg = ma$$
$$3mg - 2T = 3ma$$
$$T - mg = ma$$

Adding these equations together yields

$$mg = 5ma$$
$$a = \frac{g}{5}$$

so the answer is $\boxed{B}$.