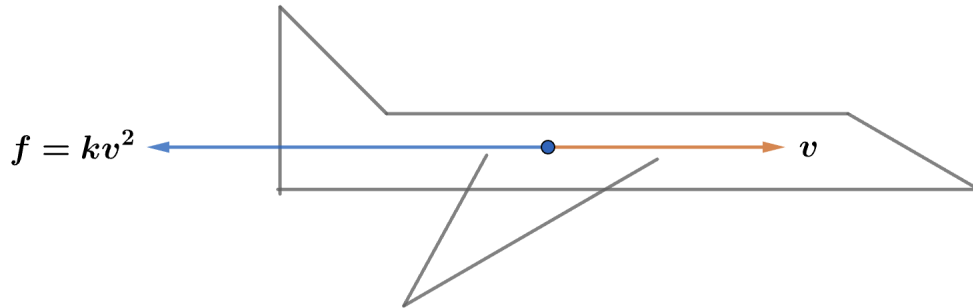# 2015 F=ma Exam: Problem 3

Kevin S. Huang

To fly at velocity v, the power needed is $P = fv$ where $f = kv^2$. We are given

$$P_0 = kv_0^3$$

If the power is doubled,

$$2P_0 = kv_1^3$$

Substituting in the previous equation,

$$2kv_0^3 = kv_1^3$$
$$v_1 = 2^{1/3}v_0 = 1.26v_0$$

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