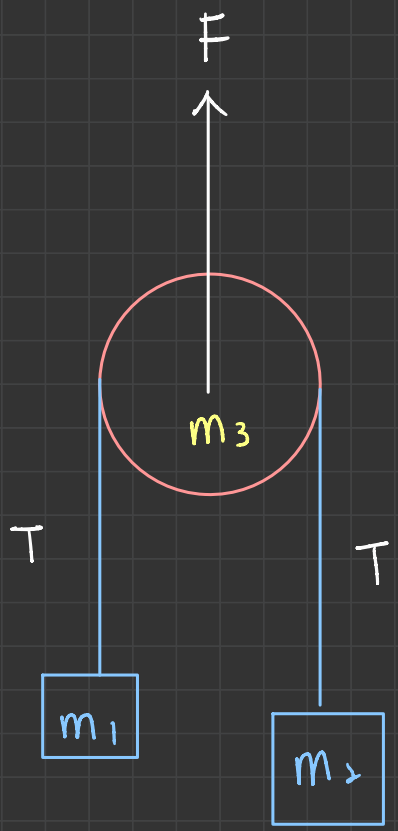

① $F - 2T - m_3 g = m_3 a_3$

② $T - m_1 g = m_1 a_1$

③ $T - m_2 g = m_2 a_2$

④ $a_1 + a_2 = 2a_3$

可令 $a_1 = a_3 - a$

$a_2 = a_3 + a$

① + ② + ③

$$F - (m_1 + m_2 + m_3)g = (m_1 + m_2 + m_3)a_3 + (m_2 - m_1)a$$

A

③ − ②

$$(m_1 - m_2)g = (m_2 + m_1)a + (m_2 - m_1)a_3$$

B

消掉 a

$$(m_1 + m_2)A + (m_1 - m_2)B$$

$$(m_1 + m_2)F - (m_1 + m_2)(m_1 + m_2 + m_3)g + (m_1 - m_2)^2 g$$

$$\Downarrow$$

$$(m_1 + m_2)(m_1 + m_2 + m_3)\,a_3 - (m_1 - m_2)^2 a_3$$

$$\Downarrow$$

$$(m_1 + m_2)F - 4m_1m_2g + m_3(m_1 + m_2)g$$

$$\Downarrow$$

$$[4m_1m_2 + m_3(m_1 + m_2)]\,a_3$$

$$a_3 = \frac{(m_1 + m_2)F}{4m_1m_2 + m_3(m_1 + m_2)} - g$$

$$(m_1 - m_2)g = (m_2 + m_1)a + (m_2 - m_1)a_3$$

B

$$a = \frac{m_1 - m_2}{m_1 + m_2}(g + a_3)$$

$$a = \frac{(m_1 - m_2)F}{4m_1m_2 + m_3(m_1 + m_2)}$$

$$a_1 = a_3 - a$$

$$= \frac{2m_2F}{4m_1m_2 + m_3(m_1 + m_2)} - g$$

$$a_2 = a_3 + a$$

$$= \frac{2 m_1 F}{4 m_1 m_2 + m_3 (m_1 + m_2)} - g$$