

(2)

$$N_{A/B \text{ part A}} = N_{A/B \text{ part B}}$$

$$\frac{30(a_A - 16.1)}{\cos 60^\circ} = 12(32.2 \cos 60^\circ - a_A \sin 30^\circ)$$

$$\frac{30a_A - 483}{0.5} = 193.2 - 6a_A$$

$$60a_A - 966 = 193.2 - 6a_A$$

$$66a_A = 1159.2$$

$$a_A = 17.56 \text{ ft/s}^2$$

$$\Sigma F_{x'} = m_B a_{x'}$$

$$W_B = m_B a_{A/B} - m_B a_A \cos 30^\circ$$

$$m_B g = m_B a_{A/B} - m_B a_A \cos 30^\circ$$

$$g = a_{A/B} - a_A \cos 30^\circ$$

$$g + a_A \cos 30^\circ = a_{A/B}$$

$$32.2 + 17.56 \cos 30^\circ = a_{A/B}$$

$$32.2 + 15.21 =$$

$$47.41 = a_{A/B}$$