

# Answers Exam 1 2017

$$1) v(t^*) = d \left( \frac{3(L + \frac{8d}{3} - A)}{d} \right)^{2/3}$$

$$2) \frac{d T^2}{2} + W \cos \theta T + C = \frac{3 T^3}{6} - W \sin \theta T + D$$

$$3) x_2 - x_1 = \frac{3 \tau_1^2 M}{8 P \cos \theta}$$

$$4) a_x = \frac{P \cos \phi - (m_1 + m_2) g \sin \theta - \mu N_1}{m_1 + m_2}$$

$$N_1 = P \sin \phi + m_1 g \cos \theta$$

$$F_{12} = m_2 g \sin \theta + m_2 a_x$$