

HW answersPractice sheet 1

- ① $a_c = 3.1 \frac{m}{s^2}$
 ② $a_c = 73 \frac{m}{s^2}$
 ③ $a_c = 1985 \frac{m}{s^2}$ } Part 1: Centripetal Acceleration

- ① a) $F_T = 0.343 N$
 b) v & a_c unchanged, F_T doubled
 c) v & a_c doubled, F_T doubled
 d) v is doubled, a_c & F_T are 4 times larger

- ② a) $a_c = 4 \frac{m}{s^2}$
 b) Static friction
 c) $F_s = 800 N$

- ③ a) $a_c = 8 \frac{m}{s^2}$
 $F_T = 16 N$

HW answers (continued)

Circular motion HW 1 (answers are rounded)

① a) $35 \frac{m}{s}$

b) $25 \frac{m}{s^2}$

② $8 \frac{m}{s^2}$

③ a) $13 \frac{m}{s}$

b) $169 \frac{m}{s^2}$

① a) $27 N$

② a) $5.9 \frac{m}{s}$

b) $5.1 N$

③ a) ~~23.5~~ $23.5 \frac{m}{s^2}$

b) $21100 N$

c) Static Friction