Forces at angle

1. 4.6 m/s^2
2. 1.5 m/s^2 Down the ramp
3. 0.28
4. 7m/s^2 Right
5. 1.0m/s^2 right
6. 1.5 s
7. 120N
8. 0.49 m/s^2 Up the ramp

Muti-body systems

1. a) 0.89 m/s^2 left T=110N
b) 6.5 m/s^2 right T= 16.3m N
c) 5.3 m/s^2 right T= 53N
d) 2.5 m/s^2 right T=44 N
e) 1.4 m/s^2 right T=210 N
f) 0.61 m/s^2 right T=9.2m N
g) 1.6 m/s^2 left T1=120 N T2=110 N
h) 1.3 m/s^2 right T1=200 N T2=180 N

2. Fa= 98N T=140N
3. 4.6 m/s^2 Left T = 290N

Multibody Systems II
1. 4.3 m/s^2 right T=140 N
2. 4.4 m/s^2 right T=27 N
3. 4.7 m/s^2 left T=100 N
4. T2=44N, T1 = 79N
5. 11kg
6. 0.36 m/s^2 left

Spring Hooke Law
1. 12N
2. 32 m/s^2 right
3. 7.8 m/s^2 right
4. 3.5mm
5. 100 N/m
6. Spring 1 is compressed by 5.3cm and spring 2 is compressed by 2.7cm

Universal Gravitiation

1. 8.0×10^{-10} N

2. 1600 kg

3. 7 N

4.
 a) 9.8×10^{5} N
 b) 2.4×10^{3} N
 c) 270 N
 d) 0.0018 N

5.
 a) 591 N
 b) 587 N
 c) 0.691%
 d) 0%

6.
 a) 3.71 N/kg
 b) 267 N (for a 72 kg person)

7. 1.8×10^{24} kg

8. 3.2 m