Name: Key

Simple Machines

1. [illegible]
   a. [illegible]

      $F_{out} = m \cdot g = (150 kg)(10 m/s^2) = 1500 N$

   b. [illegible]

      $F_{in} = \frac{F_{out} D_{out}}{D_{in}}$ = [illegible] = 368 N

   c. [illegible]

      $W = F_{out} D_{out}$ or $F_{in} D_{in}$ = 1950 J

   d. [illegible]

      $MA = \frac{F_{out}}{F_{in}}$ = [illegible] = 4.08

   e. [illegible]

      $P = W/t$ = [illegible] = 250 W

2. [illegible]
   a. [illegible]

      $F_{out} = mg = (75 kg)(10 m/s^2) = 750 N$

   b. [illegible]

      $F_{in} = \frac{F_{out} D_{out}}{D_{in}}$ = [illegible] = 163 N

   c. [illegible]

      $W = F_{out} D_{out}$ or $F_{in} D_{in}$ = 188 N

   d. [illegible]

      $MA = \frac{F_{out}}{F_{in}}$ = [illegible] = 4

   e. [illegible]

      $P = W/t$ = [illegible] = 376 W

3. [illegible]
   a. [illegible]

      $F_{out} = M \cdot g$ = 1500 N

   b. [illegible]

      $F_{in} = \frac{F_{out} D_{out}}{D_{in}}$ = [illegible] = 60.5

   c. [illegible]

      $W = F_{out} D_{out}$ or $F_{in} D_{in}$ = 6660 J