Name: Key

Simple Machines

3. [illegible]
   a. [illegible]

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

   b. [illegible]

   $F_{in} = \frac{F_{out} D_{out}}{D_{in}} = \frac{(1500 N)(1.2 m)}{[illegible]} = 368 N$

   c. [illegible]

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

   d. [illegible]

   $MA = \frac{F_{out}}{F_{in}} = \frac{1500 N}{368 N} = 4.08$

   e. [illegible]

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

4. [illegible]
   a. [illegible]

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

   b. [illegible]

   $F_{in} = \frac{F_{out} D_{out}}{D_{in}} = \frac{(750 N)([illegible])}{[illegible]} = 163 N$

   c. [illegible]

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

   d. [illegible]

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

   e. [illegible]

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

5. [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]

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