Work Problems

Work and Energy
1. I lift a 1.5 kg mass a vertical distance of 3.0 meters, how much work did I do?
2. How much work did GRAVITY do when I lifted the 1 kg mass a vertical distance of 3.0 meters?
3. A parent pulls a child in a wagon. The mass of the child is 8.0 kilograms and the mass of the wagon is 3.5 kilograms. The parent pulls with a force of 16 N for 12 m. The handle makes an angle of 25 degrees above the horizontal. How much work does the parent do?
4. From textbook P. 196: You push a 0.12 kg coffee mug 0.15m across a table. The force you exert is horizontal and of magnitude 0.10 N. The coefficient of kinetic friction between the mug and the table is 0.05. How much work is done on the mug?
5. A student pushes his backpack along the floor for 3.9 m by exerting a force of 88 N at an angle of 25 degrees below the horizontal. How much work has he done?