Due 11/6/06

Mr. Murray's PreAP Physics

Do these questions out of the book: Questions #8, 12, 15, 21, 24.

Hints: #21—This is just more conservation of energy. Don't let the words trip you up.
#24—This is what we talked about in class about how potential energy is relative.

Also, do these:

1. A ball is dropped from 35 meters up. How fast is it going 15 meters above the ground?

2. A 4 kg ball is dropped. If air friction exerts 3 N of force and the ball is going 8 m/s just before it hits the ground, find how high up the ball was when it was dropped.

3. A 15 kg object is pulled by a 60 N force for 10 m at an angle of 40º. If $\mu_s = 0.2$ and $\mu_k = 0.1$,
   A. Find how much work is done by the 60 N force. (This is straight forward.)
   B. Find how much work is done by friction during the same distance.
   (You have enough information. Need more help: see "Friction and Angles" in the last chapter. By the way, in this case $Fn \neq Fw$.)
   C. Did the 60 N force do positive or negative work?
   D. Did friction do positive or negative work?
   E. Find the Net Work done on the object.
   F. Find the speed of the object afterward, if it started at rest.