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PHYS 1110 Worksheet: Energy

1. What is the kinetic energy of a $1.\overline{0}$-kg koovel traveling at a speed of $1.\overline{0}$ meters per second?

2. A $1.\overline{0}$-kg koovel has a kinetic energy of $1.\overline{0}$ joule.
    A. What is the koovel's speed?

    B. If the koovle accelerates from rest at a rate of $1.\overline{0}$ meters per second per second, how far does it travel to reach this speed?

    C. What net force is required to accelerate the koovel at $1.\overline{0}$ meters per second per second?

    D. How much work does the net force do on the koovel to get it up to speed?

3. A $1.\overline{0}$-kg cart on wheels with frictionless bearings coasts up a 30° incline. Its initial speed is 7.0 meters per second.

   A. What is its initial kinetic energy?

   B. What is its acceleration?

   C. What distance up the hill does it coast before coming to a stop?

   D. What is its elevation change?

   E. How much work does gravity do on the cart as it travels uphill?