1. A constant net force acts on a box on a frictionless surface. Determine if each of the following is zero, constant, or constantly changing. Explain each answer.
   1. The acceleration
   2. The speed
   3. The kinetic energy
   4. The work done each second
   5. The power
2. How much work must be done on a 4 kg sled to increase its speed from 3.5 m/s to 6.5 m/s?
3. At the start of a race, a rowing team moves their 125 kg boat from rest to a speed of 17 m/s in the first 100 meters of a 2000 meter race. They then continue at a constant speed the remaining 1900 meters to the finish line.
   1. What was the net work done on the boat in the first 100 meters of the race?
   2. What was the net work done on the boat in the remaining 1900 meters of the race?
4. Two gorillas pull in opposite directions on a wagon filled with bananas. One pulls with a force of 350 N to the right, and the other pulls with a force of 185 N to the left. The combined mass of the wagon and bananas is 450 kg. If the wagon is frictionless and starts from rest, what is the speed of the wagon after it has moved a distance of 15 meters?
5. A 1.3 kg flowerpot falls from a second story window, 4.5 meters above the ground. (ignore air resistance)
   1. How much work is done on the flower pot by the force of gravity as it falls?
   2. What is the final velocity of the flower pot immediately before it hits the ground?