NAME: PERIOD: DATE:

WORK & MACHINES HOMEWORK 1

FOR ALL CALCULATIONS:
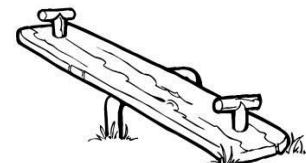
Write formula.   **Show substitutions.**   **Label answer.**   **Circle answer.**

1. If a bowling ball with a weight (force) of 400 Newtons, falls a distance of 5 meters.

How much work will it do on the see-saw below it?

see-saw

2. On the other end of the see-saw is a frog who has a weight (force) of only 20 Newtons. How far will the frog fly when the bowling ball hits the other side of the see-saw? (A see-saw is a machine that changes the direction of your force & work.)

BOING!

3. Circle all of the following that are true.

A. A machine is useful because it gives you more work.

B. A machine is useful because it can increase your force.

C. A machine is useful because it can change the direction of your force.

D. A machine is useful because it keeps you from doing work.

D. The amount of work you put into a machine is the same as the amount of work you get out of it.

E. The units for work are Joules (J).