Show all work: MAKE A RECTANGLE OF POWER for each (7-20). No naked numbers. As always: 3 SIG FIGS! Be careful that the number you are using is in the right unit. If not, convert!

1. What unit does distance need to be in?
2. How do you convert the following? km to m? cm to m? mm to m?
3. What do you need to convert kg to when finding work?
4. How do you convert kg to Newtons?
5. How do you convert lbs. to kg?
6. Make a triangle equation for Work and Power

Calculate the work done in the following problems: Show all conversions AND make a R.O.P. for each!

1. F = 210N; d= 43.75m
2. F = 80N; d = 75 m
3. F = 32.8N; d = 67 m
4. F = 10.6N;d = 30.5 cm
5. F = 540 kg; d = 2.00E-4 km
6. Force = 1.95 x 103 kg; 4.32E3 mm
7. Force = 50 lbs, 7000 cm.

Calculate Power for each problem above for the following times. Convert to Seconds!

1. (#7) 20 seconds
2. (#8) 30 minutes
3. (#9) 200 seconds
4. (#10) 1.2 hours
5. (#11) 15 seconds
6. (#12) 24 hours
7. (#13) 1.5 days Answer needs to be in kW!

Work and Power Conversions!

Show all work: MAKE A RECTANGLE OF POWER for each (7-20). No naked numbers. As always: 3 SIG FIGS! Be careful that the number you are using is in the right unit. If not, convert!

1. What unit does distance need to be in?
2. How do you convert the following? km to m? cm to m? mm to m?
3. What do you need to convert kg to when finding work?
4. How do you convert kg to Newtons?
5. How do you convert lbs. to kg?
6. Make a triangle equation for Work and Power

Calculate the work done in the following problems: Show all conversions AND make a R.O.P. for each!

1. F = 210N; d= 43.75m
2. F = 80N; d = 75 m
3. F = 32.8N; d = 67 m
4. F = 10.6N;d = 30.5 cm
5. F = 540 kg; d = 2.00E-4 km
6. Force = 1.95 x 103 kg; 4.32E3 mm
7. Force = 50 lbs, 7000 cm.

Calculate Power for each problem above for the following times. Convert to Seconds!

1. (#7) 20 seconds
2. (#8) 30 minutes
3. (#9) 200 seconds
4. (#10) 1.2 hours
5. (#11) 15 seconds
6. (#12) 24 hours
7. (#13) 1.5 days Answer needs to be in kW!

PE & KE Work

Reminder: mass = kg, height = m, velocity = m/s. IF NOT, CONVERT!

Make a triangle equation for each of the following: PEelastic , PEg, and KE

Calculate PE for the following. SHOW ALL WORK, WRITE DOWN EQUATIONS!

1. height = 20 meters

mass = 25.2 kg

1. height = 115 cm

mass = 176 g

1. height = 13556 mm

mass = 1.294 E2 kg

1. A rubber band is stretched back .025 meters with a force of 20N.
2. A bow is stretched back 59 cm with a force of 375 N.

Calculate the KE for the following:

1. A 2.5 kg lab cart is traveling at 4.00 m/s.
2. If you doubled the mass of the cart in #6 what would the resulting KE?
3. If you double the velocity of the cart described in #6 (not #7!) what would be the resulting KE?
4. Which factor, mass or velocity has more effect on the KE? Explain why.
5. Calculate the KE of a 7.50E4 g bicycle that is moving at 16 m/s.
6. Calculate the KE of a 0.33 kg top spinning at 23 km/hr.
7. If the velocity was quadrupled (4x’s) what is the new KE.
8. Calculate the KE of a 5.5 g particle traveling at 20000 m/hr.
9. Calculate the KE of a 6000 N car that is traveling at 80 km/hr.

PE & KE Work

Reminder: mass = kg, height = m, velocity = m/s. IF NOT, CONVERT!

Calculate PE for the following. SHOW ALL WORK, WRITE DOWN EQUATIONS!

1. height = 20 meters

mass = 25.2 kg

1. height = 115 cm

mass = 176 g

1. height = 13556 mm

mass = 1.294 E2 kg

1. A rubber band is stretched back .025 meters with a force of 20N.
2. A bow is stretched back 59 cm with a force of 375 N.

Calculate the KE for the following:

1. A 2.5 kg lab cart is traveling at 4.00 m/s.
2. If you doubled the mass of the cart in #6 what would the resulting KE?
3. If you double the velocity of the cart described in #6 (not #7!) what would be the resulting KE?
4. Which factor, mass or velocity has more effect on the KE? Explain why.
5. Calculate the KE of a 7.50E4 g bicycle that is moving at 16 m/s.
6. Calculate the KE of a 0.33 kg top spinning at 23 km/hr.
7. If the velocity was quadrupled (4x’s) what is the new KE.
8. Calculate the KE of a 5.5 g particle traveling at 20000 m/hr.
9. Calculate the KE of a 6000 N car that is traveling at 80 km/hr.