Revision for prac test solutions ext.

1. Work is done when a force is applied to an object and it is moved for a distance in the direction of the net force. E.g. W = Fxs
2. W = 0.3 x 9.8 x 1.3 = 3.82 J
3. H = 16 000/(16x9.8) = 102m
4. Is the energy an object possesses due to its motion/ KE = ½ mv2.
5. KE = ½ x 0.5 x 10-3 x (320)2 = 25.6 J
6. W = KE gained = ½ mv2 = ½ x 0.5 x 72 = 12.3 J
7. 25 = ½ 0.015 x v2 v= 57.7 ms-1
8. Potential energy is the energy an object possesses due to its raised position above the ground. Eg rock on top of a cliff. PE = mgh
9. a) PE = 50 x 9.8 x 3.2 = 1 568 J = 1570 J
10. KE = PE = 1 568 J = 1570 J
11. 1568 = ½ x 50 x v2 v = 7.92 ms-1
12. 1568 J = 1570J
13. P = E/t = W/t = 1568/(1.5 x 60) = 17.4W
14. Power is the rate at which is done or energy transformed. 60 W globe uses 60 J of electrical energy every second. P= E/t = W/t