

\_\_\_ 23.  $PE = mgh$  where the acceleration due to gravity is  $9.8 \text{ m/s}^2$ . If the incline was 0.4 m high and the mass of the cart was .9 kg, what is the PE of the cart?  
 a) 3.5 J      b) 1.8 J      c) 9.8 J      d) 50 J

\_\_\_ 24. If the height of the incline was increased to .8 m, what would happen to the PE?  
 a. PE would decrease because the KE increased  
 b. PE would not be effected by the height of the incline  
 c. PE would increase because the higher the object the greater the PE  
 d. PE would decrease, because if the height increases the PE decreases

\_\_\_ 25.  $KE = \frac{1}{2} mv^2$  If the mass of a skater was 50 Kg and their velocity was 2m/s, how much KE do they have?  
 a) 100 J      b) 200 J      c) 25 J      d) 50 J

\_\_\_ 26. If the 50 Kg skater increased their velocity to 3 m/s, what would happen to their KE?  
 a. KE would increase because the faster something moves the more KE they have  
 b. KE would decrease because the velocity increased  
 c. KE would not be effected because KE depends on height not velocity  
 d. KE would increase because the mass increased

\_\_\_ 27. How does temperature measure the KE of molecules?  
 a. If the temperature goes up, the molecules move slower so more KE  
 b. If the temperature goes up, the molecules sink lower so they have more KE  
 c. If heat is added to a substance the molecules move faster so they have more KE

\_\_\_ 28. The gravity on the Earth is 6 times as much as the gravity on the moon. How much would a 24 lb. object weigh on the moon?  
 a. 12lbs      b. 24 lbs      c. 6 lbs.      d. 4 lbs.

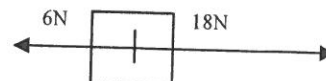
\_\_\_ 29. The gravity is different on the Earth and the moon because...  
 a. the moon is more massive than the Earth  
 b. the Earth is more massive than the moon  
 c. the Earth is bigger (has more volume)  
 d. the moon is bigger ( has more volume)

\_\_\_ 30. One benefit to Nuclear Power is that it...  
 a. does not produce the pollutants that burning fossil fuels would  
 b. does not produce radioactive wastes  
 c. does not require any safety measures  
 d. cannot be converted to heat

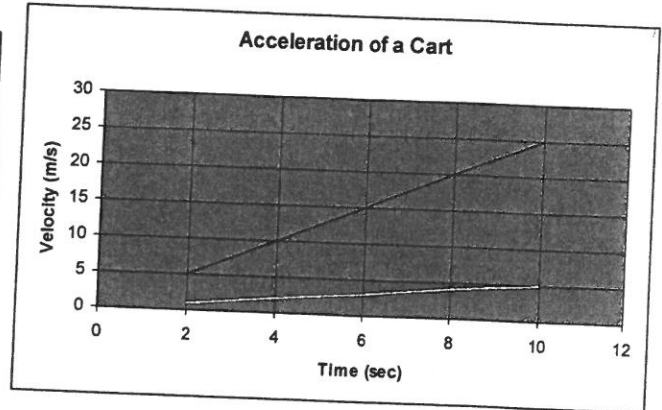
31. Use the diagram at the right and  $F = ma$  to find:

a) the net force on the block \_\_\_\_\_

b) the acceleration of the block \_\_\_\_\_



31. Which line a or b would show the acceleration of the cart if the force on the cart was increased? Short Response (5pts)



32. Which line a or b would show the acceleration of the cart if the mass on the cart was increased? Explain. Short Response. (5pts)

33. Which can, black or silver cooled at the fastest rate? Explain why.