

1. Graph in the figure shows the position of an object in time
  - a. HI JK
2. Shows graph of X as a function of time for an object moving in a straight line. Which describes velocity along x axis as a function of time
  - a. D
3. Two objects are dropped from a bridge, an interval of 1.0 sec apart. Difference in their speeds as time progresses?
  - a. Remains constant
4. A student slides a box across a level floor in a straight horizontal path as shown in the picture. At time  $t_1$  the box is moving to the right
5. Cars A,B,C,D are moving along a straight track.
6. Average speed between 1 and 2
  - a. Slope of position vs time
7. Order magnitude of a cart as it goes down (ABCD intervals) w/ graph
8. Throws a rock from cliff 20 m.  $V_0$  is 10 m/s horizontally Distance from base of cliff is most nearly?
  - a.  $20 = 9.8t^2/2, x = t^2 \cdot 10$
9. A block is projected up a frictionless plane ( $g\sin\theta$ )
  - a. 9
  - b. B  $5m^2$  down the incline (correct)
  - c.  $10m/s^2$  up the incline
  - d. Can't be calculated without knowing the value of  $V_0$
10. Boat, river, passenger relative velocity
11. Car is travelling at  $v_A$ . At  $t=0$  it passes car B at rest. B begins to accelerate with  $a_B$ . Car B has a velocity
  - a. Find  $x$  of car A by doing  $v_A \cdot t$
  - b. Find  $x$  of B by doing  $\frac{1}{2}a_B t^2$

Test 1 is out of 90 points, normally tests have 12 mcq  $\rightarrow$  48 pts total . So 42 points for frq. So 13 for frq and multiply by 4

First question out of 12, second out of 9

Frq is from AP test bank, modified point values

1.
  - a) When is the cart at rest (velocity is 0, graph shows velocity v time)
  - b) When is speed increasing?
  - c) S
  - d) Acceleration vs time
  - e) Cart leaves the track
    - i) Determine time it takes for the car to hit the floor
    - ii) Determine the horizontal distance
  - f)