

Phys 3344:

Office Hours:

Wed 5:00-6:00

6:00-7:00 Physics Kick off

Schedule:

Homework #2:

Air Resistance

Please join us for the

PHYSICS Department Kick-Off Event

Gifts for participants!

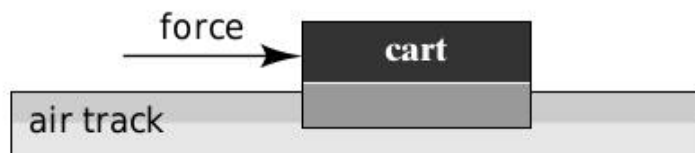
**6:00 – 7:00 pm
Wed Sept 2nd by Zoom**

**Look for
Canvas Announcement
to register**

**Meet the current Physics faculty and students
Learn about opportunities for undergraduate research
Get advice about careers and majoring or minoring in Physics
Find out about the Society of Physics Students (SPS)**

2020 FALL PHYS 3344					
#	DAY	LECTURE:	NOTES:	Chpt	TOPIC
1	TUE	08/25/20	First Class	1	Newtons Laws
2	THUR	08/27/20		2	Projectiles
3	TUE	09/01/20		3	Momentum & Angular Momentum
4	THUR	09/03/20		4	Energy
5	TUE	09/08/20		5	Oscillations
6	THUR	09/10/20			
7	TUE	09/15/20			
8	THUR	09/17/20			EXAM 1
9	TUE	09/22/20		6	Calculus of Variations
10	THUR	09/24/20		7	Lagrange's Equation
11	TUE	09/29/20			
12	THUR	10/01/20		8	Two Body Problems
13	TUE	10/06/20			
14	THUR	10/08/20		9	Non-Inertial Frames
	TUE	10/13/20	Fall Break		
15	THUR	10/15/20		10	Rotational Motion
16	TUE	10/20/20			EXAM 2
17	THUR	10/22/20			
18	TUE	10/27/20		10	Rotational Motion
19	THUR	10/29/20			
20	TUE	11/03/20		11	Coupled Oscillations
21	THUR	11/05/20			
22	TUE	11/10/20		13	Hamiltonian Mechanics
23	THUR	11/12/20			
24	TUE	11/17/20			
25	THUR	11/19/20		14	Collision Theory
26	TUE	11/24/20			
27	THUR	11/26/20	Thanksgiving		
28	TUE	12/01/20		15	Special relativity
29	THUR	12/03/20	Last Class		Review
	WED	Dec 16	FINAL EXAM	Wednesday Dec. 16, 2020, 11:30am - 2:30	

A constant force is exerted on a cart that is initially at rest on an air track. Friction between the cart and the track is negligible. The force acts for a short time interval and gives the cart a certain final speed.

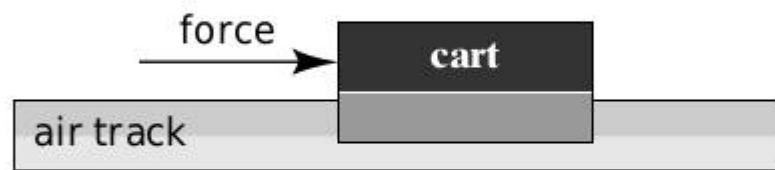


To reach the same final speed with a force that is only half as big, the force must be exerted on the cart for a time interval

1. four times as long as
2. twice as long as
3. equal to
4. half as long as
5. a quarter of

that for the stronger force.

A constant force is exerted for a short time interval on a cart that is initially at rest on an air track. This force gives the cart a certain final speed. The same force is exerted for the same length of time on another cart, also initially at rest, that has twice the mass of the first one. The final speed of the heavier cart is



1. one-fourth
2. four times
3. half
4. double
5. the same as

that of the lighter cart.

A constant force is exerted for a short time interval on a cart that is initially at rest on an air track. This force gives the cart a certain final speed. Suppose we repeat the experiment but, instead of starting from rest, the cart is already moving with constant speed in the direction of the force at the moment we begin to apply the force. After we exert the same constant force for the same short time interval, the increase in the cart's speed



1. is equal to two times its initial speed.
2. is equal to the square of its initial speed.
3. is equal to four times its initial speed.
4. is the same as when it started from rest.
5. cannot be determined from the information provided.

A cart moving at speed v collides with an identical stationary cart on an airtrack, and the two stick together after the collision. What is their velocity after colliding?

1. v
2. $0.5 v$
3. zero
4. $-0.5 v$
5. $-v$
6. need more information