Part A - 1) What did you see that reinforced something about the physical world you might already be familiar with from your everyday experience and/or learned knowledge?

01/25/13 09:11 pm
The use of classical mechanics to explain relative motion and the falling of the ball on the constant velocity cart matched my understanding of the physical world, since it makes sense for an object to fall relative to the moving object it's attached to. Similar rules apply when you throw a ball into the air on a moving car or walk around on an air plane.

01/26/13 04:43 pm
Everything they did essentially reinforced my previous understanding - or helped build bridges between ideas I hadn't necessarily thought of as related before.

01/27/13 08:08 am
The frames of reference that showed the table moving in relation to the background frame and watching the table moving with out the frame reminded me of taking a train to Denver. Conversely, when working in Oakland, we had trains running outside the business since we were next to the port. Viewing a train while in the frame of reference to the earth is very different than viewing the countryside while inside the train. Both are Frames of Reference. Also the experiments are reminiscent of the ones in clase and from the videos in MP online. The discussions of velocity and acceleration, acceleration pointing to the center of the rotational circle, and Inertia; all learned in class.

01/27/13 01:44 pm
When I saw the puck let go while Dr. Hume had been holding it with the rubber band, I immediately thought about a car making a tight curve and what happens to loose objects and people who are in that car.

01/27/13 04:11 pm
The conservation of momentum was illustrated very well by the puck on the rotating table. It is was hard to believe that it was moving in a straight line, but proof was shown when a line was drawn on the screen.

01/27/13 04:17 pm
The experiment with the ball dropping was something that was reinforced for me. I think that before last quarter I probably wouldn't have guessed that something moving would retain the same velocity (neglecting air resistance) after being released.

01/27/13 04:22 pm
Seeing the ball on the magnetic pole that was dropped from the moving cart at constant velocity reinforced my understanding of the physical world. I knew from experience that the ball would still fall straight down.

01/27/13 05:56 pm
The part where we were watching a spot on a moving wheel. We followed the spot with our eyes and therefore saw the spot move as a circle. Then they showed us that when we have an Earth based reference, it then moves as a wave / loop-dee-loop. I knew this from somewhere before, it was exciting to revisit: that frame of reference is a powerful tool for knowledge.

01/27/13 06:33 pm
The truly parabolic and illusory linear trajectories of the ball on the cart with variated motion demonstrations. Actually now that I think about it, I guess I'm kinda surprised air drag didn't mess up their demo; but I guess I'm assuming they used a ping pong ball or something.

01/27/13 06:42 pm
I know that everything in this world is relative, each movement and action that can be observed in multiple ways can create different observation, even though the actual results are the same. Each of the examples the scientists presented were very helpful to see the how a different frame of reference can change the way we take results.

01/27/13 06:54 pm
Objects already moving horizontally under only the influence of gravity fall in parabola-shaped paths.

01/27/13 07:01 pm
I thought that the ball being dropped from a cart moving with constant velocity couldn't move in a straight line. Even though that's how it first appeared in the film. I felt that something had to be off. Watching that ball fall straight down didn't feel right.

01/27/13 07:02 pm
I thought the part where they were passing the dry ice puck back and forth while moving on a track was really interesting, especially when the camera zoomed out and you could really see the relative speed of the puck from the ground's frame of reference.

01/27/13 07:13 pm
watching the 1960s frames of reference I saw the idea of inertia reinforced using the dry ice puck being slid back and forth on the table. since the friction was minimal it moved at a close to constant speed. it then added the idea of motion relative to the earth which is still a bit baffling to me

01/27/13 07:29 pm
That idea that an object's motion is characterized by the point of view in which the person is looking at it connects a lot with the discipline of study I am most familiar with, so I appreciated the explanation of the white ball that seems to be moving in circles but doesn't actually have a circular path relevant to the earth. It correlated a lot with my understanding of the unit circle and how it is translated onto a wave.

01/27/13 07:38 pm
Pretty much everything, especially the idea of fictitious forces. Everyone has walked around on a moving object. I especially enjoy walking up and down escalators or backwards on a walkway. From my frame im walking, but to the observers im not going anywhere. Even just watching cars go by from your own moving car, out the front they are slow, out the side window they are fast.

01/27/13 08:01 pm
The film showed me that everything is relative to each other, and whether "you" are moving, or something near is moving, technically you are both moving away or toward each other.

01/27/13 10:47 pm
The object on the moving frictionless table reminded me of the other night when I was looking at the moon and the clouds. It really looked as if the clouds were in my frame of reference and that the moon was moving very fast, when really the moon was much closer to being in my frame of reference than the clouds, which were moving at a much greater speed relative to the earth than the moon was.

Part B - 2) What did you see that surprised you about the physical world?

01/25/13 09:14 pm
I was not expecting the motion shown when the cart accelerated and the ball fell off to the side. Or, well, I guess in hindsight it makes sense, but when it happened, it took me by surprise because of fictitious forces. I also found myself bewildered by the movement of the puck on the rotated table and the white disc spinning on the cart when it etched its motion on the glass. It seemed quite contrary to the motion I saw with the disc moving in a circle. Crazy.

01/26/13 04:14 pm
I had never really understood what the difference was between a real force and a fictitious force was, although I understood that there was a difference - the connection between frames of reference and fictitious forces really surprised me, although it made perfect sense the way they presented it.

01/26/13 06:42 pm
I thought it was interesting that we will put ourselves into a moving frame of reference if this frame of reference is easier to understand than viewing things from the Earth's frame of reference - or vice versa - as seen with the spinning white dot that did not actually run in circles, though we are inclined to see it as running in a circle as this is simpler to see than the half-circles it is forming.

01/27/13 08:17 am
Ok this may sound weird, but at the beginning where the professor was upside down, prior to my realizing he was upside down, he looked like he had no neck. Silly, I know, but when he uprighted

himself, voila, he had a neck.

01/27/13 03:44 pm
The law of inertia doesn't hold in an accelerating frame of reference.

01/27/13 04:20 pm
I was surprised that the frictionless puck was actually traveling in a straight line after they gave it an initial push. If I break the situation down and what I have learned about forces, it makes perfect sense. However, my initial intuitive sense of what was happening did not match up.

01/27/13 04:47 pm
Well what surprised me was the example of relative velocity. When they switched the reference frame from moving with the cart to stationary it was a logical, but but surprising. I did not expect the puck to look so stationary to the earth.

01/27/13 05:05 pm
Seeing the wall move behind the table while also in another scene the table moved while the wall stayed stationary surprised me how easily the frame of reference can be changed.

01/27/13 05:47 pm
2) I found it surprising that observing an event within the same frame of reference as the event that is occurring can make it appear as if there are forces acting that do not actually exist. This is the sort of scenario that was shown with the accelerating cart that drops the ball as shown by a camera attached to the cart. Because the cart is accelerating, its velocity increases in between the time the ball is dropped and when it hits the cart. Because of this, it appears that it moves to the left even though it was still moving to the right with a velocity that was less than the velocity of the cart.

01/27/13 05:50 pm
The part about a pendulum swinging on the poles. I didn't know it would rotate like that, it makes sense now.

01/27/13 06:39 pm
Foucault pendulum planes are awesome.

01/27/13 06:42 pm
One thing that the scientist did that really took me off guard was the experiment with the ball and magnet. When they put the cart in motion i thought that the ball would stay back instead of moving in a parabola forward.

01/27/13 06:52 pm
The scene where the two hosts sat around a table pushing the a puck in a straight line, but because the camera was fixed to the rotating platform, the puck had a "rotation" to it which was an illusion. It was incredibly disorienting. This example helped reinforce the idea of particle systems and out forces outside of the system can create reactions different than the original system had intended.

01/27/13 06:56 pm
The cycloid the moving, rotating white dot traced out wasn't "perfect" like cycloids tend to be drawn in mathbooks, it traced out loops.

01/27/13 07:01 pm
The idea of fictitious forces was really surprising, also non inertial frames. Is there more of an explanation about this? It feels like making stuff up.

01/27/13 07:02 pm
The puck moving in a straight line while the table was revolving surprised me, as well as the man holding the puck from moving with a rubber band, while at the same time making it rotate in a circle. Both made sense after being explained, but they seem counter-intuitive.

01/27/13 07:36 pm
How after puck was released on the rotating turntable, it seemed to have an unbalanced forced that made it move to the other side of the table (which was in the earth's reference frame toward the center of the rotation) but in the person's reference frame, it didn't make sense! Centripetal force didn't seem like an explanation because they weren't aware they were rotating, so there seemed to be a fictitious force

pushing it. Makes me think about scientific explanations that are used to explain "supernatural" occurrences.

01/27/13 07:48 pm
I am still blown away by the straight line movement of the puck on a rotating plane. The illusion of circular movement is very strong.

Part C - 3) What did you see that connected with work we've previously done (or that you've done in a previous class)?

01/25/13 09:15 pm
The discussions about relative motion using classical mechanics (addition and subtraction) and the concept of centripetal acceleration pointing towards the center of rotation matched up with what we've discussed last quarter.

01/26/13 04:35 pm
Most of what the film covered was intimately related to nearly everything we have discussed so far: the relationship between position, velocity, and acceleration; conservation of momentum (as apparently violated, though not really, by accelerated reference frames); centripetal acceleration, free-fall, and the component vectors of velocity and acceleration.

01/26/13 06:52 pm
At one point, they talk about inertia and forces - specifically, we tend to instinctively assume forces are in play. We usually understand things in inertial frames of references, so when we see things through non-inertial frames, we assume there must be a force causing the motion, however it is, when really there is none. So, we have to be careful and not assume that what he have learned previously about forces applies in all cases of motion.

01/27/13 04:21 pm
The ball dropping connected with the demonstrations you had done in class and some problems on the exam(s) from last quarter.

01/27/13 04:29 pm
Seeing the ball on the magnetic pole that was dropped from the moving cart accelerating causing the ball to fall at an angle to the left of the pole. This reminded me when you find derivatives of velocity to acceleration and for example the velocity is constant so the their will not be zero acceleration while if the velocity is not constant the acceleration is negative or positive.

01/27/13 04:51 pm
The example of the ball dropping and the shape it made in relation to the earth was very logical and in looks like the parabola of a ball falling with an initial volcity. It was surprising that it fell straight down in relation to the cart.

01/27/13 05:47 pm
3) All of the experiments tied back to the law of inertia, which we have studied as Newton's First Law. The interesting thing is that it is our faith in this law that causes us to believe in fictitious forces when viewing motion in non-inertial frames.

01/27/13 05:50 pm
How from an Earth based frame of reference, the falling ball on the table-cart fell as a parabola. The force of gravity was the only effect on it.

01/27/13 06:42 pm
Everything, it looks like they went through most of, if not all, our kinematics, grazed the concepts of dynamics, and sprinkled a little relativity on it.

01/27/13 06:42 pm
They talked a lot about constant velocity, which I can see how important it is to consider when looking at different frames of references.

01/27/13 06:52 pm

Frames of reference seem to relate directly to our subject of relativity. Depending on our perception of reality, what happens around us could be completely different from is happening around someone else.

01/27/13 07:00 pm
I've worked a little on frames of reference and relativity in a previous class, so not a lot really surprised me. Although, the cycloid machine did remind me of a two chapters ago when we were adding the angular /and/ linear momenta together to get the proper result. I suppose that from a moving bicycle's frame fo reference, it's tires would only have the angular momentum.

01/27/13 07:07 pm
from the earths frame of reference with the white ball on the circular object it looked like a parabola but looking at the circular object it looked like it was going full circle and if I remember correctly that would mimic the graphs that we got when we used logger pro

01/27/13 07:44 pm
When the turntable was rotating in one direction it seemed like the pendulum was rotating the opposite direction and it reminded me of the lab experiment with the bicycle wheel where the wheel seemed to be turning depending on where the person making the judgment was.

01/27/13 07:49 pm
This entire film was a great transition from classical to relativistic thinking.

01/27/13 10:29 pm
A reference frame is similar to an origin, such as on a graph or a basic starting point. This is because (as stated in the name) it is a reference point, and calculations are made based off this reference point.

01/27/13 10:47 pm
I liked seeing the parabola shape of the ball falling, because it reminded me of the ball we animated in after affects as the path of travel was the same. These two objects had the same path of travel but in different frames of reference. In the animated ball, some other force was throwing the ball forward and down while in the film, the ball was just falling but we were seeing the ball from the frame of reference of the moving cart.

Part D - 4) What parts of the film did you find less interesting, and why?

01/25/13 09:16 pm
I didn't find anything uninteresting about the film. All of the studies shown held my attention from start to finish, and I found the sets very creative in showcasing the motions between frames of reference.

01/26/13 04:26 pm
A number of the parts where they were explaining the basic principles of acceleration and uniform motion were less interesting to me, but mostly because I am pretty familiar with the content, and thus it was mostly just reaffirming things that I had already accepted - so there was less of a novelty factor.

01/27/13 08:15 am
all good, its true I'm a nerd....

01/27/13 04:24 pm
I found the part of the film with the pendulum dropping sand to be the least interesting because I did not understand what it was they were trying to demonstrate. I understood their words, but I did not see how the images on screen were representing that.

01/27/13 05:47 pm
4) I didn’t find the first few experiments with the cart very interesting because they were belaboring a point that seems very basic after having studied physics for a while already. It makes sense to start with the basic concept that our perception of motion is relative because velocity is relative, but it was less interesting to me because it is something we have already encountered.

01/27/13 05:51 pm
I found it all interesting. Science, explained well, with integrity and humor is wonderful.~

01/27/13 06:46 pm

The stuff that we've already covered. I feel there's not actually much educational content in the video, as there is information to whet an appetite for physics. At least they're not all cheesy-corny upbeat about it all.

01/27/13 06:48 pm
The film, at times, became less interesting due to the speakers' dry, monotonous tones while describing the material.

01/27/13 06:49 pm
The film's closing was that impactful. During the rest of the film the hosts did a great job as if it was leading up to some build up. But left us with a simple notion that as being on earth we are all moving and the only reference point we have is the stars. I was hoping for some grand realization in the world of physics.

01/27/13 07:04 pm
I suppose the initial building of ideas I'd seen before were somewhat less interesting than the main points they made this film to really illustrate.

01/27/13 07:51 pm
The moving backdrop was probably the least interesting (if I had to pick one) just because it was distracting and I found myself trying to figure out which was moving, which I felt wasn't really the point. It was still fun to watch and I found everything in the film very interesting. I especially appreciated how they explained what was happening because I am not around very verbally articulate scientific English speakers and I was able to get a lot of the language to explain and understand it myself.

01/27/13 10:32 pm
I really enjoyed all of the visual illusions used in the film, they also definitely helped me understand the concepts they were explaining.

Part E - 5) What parts of the film did you find most interesting, and why?

01/25/13 09:16 pm
I really enjoyed the introduction of non-inertial frames of reference as they're something I had never considered before, and the effects of fictitious frames really boggle the mind.

01/26/13 04:29 pm
The rotating table scene was my favorite, because my brain had a hard time tracking the puck and I almost didn't believe that it was working, until they traced the white line on the image to help your eyes not be mislead by the rotating table - it makes sense, but it's so counter-intuitive to see the puck turn around and go back to him with no visible forces acting on it.

01/27/13 08:14 am
Since my early travels to the Planetarium at the Griffiths Observatory in Los Angeles, I have always been fascinated by the giant pendulum dropping sand and creating very interesting patterns. I could stand and watch it for hours. What it reminded me of when watching the film, was a particular visit to the observatory on an day that had an earthquake that morning. The pattern of sand had adjusted during the time of the quake and you could see where, and if one took the time to measure, could figure out when that earthquake had occured and its duration.

01/27/13 01:39 pm
I found the idea of fictitious forces and inertial reference points to be the most interesting. It was easy to see how they made the puck seem to move in a circle, but I had never had that type of motion described to me. It was thought provoking and made me wonder what else I could play with through frames of reference on a camera.

01/27/13 03:52 pm
We use the earth's frame of reference as an inertial one. This is interesting because we do so eventhough the earth has a small amount of acceleration with respect to the stars and other frames of reference other than the earth.

01/27/13 04:14 pm
The example of a spinning vertical disc on top of a moving cart was cool because it was an example of thinking in another frame of reference without realizing it. When the movement of the spinning disc was traced, its path relative to the Earth was revealed: a bunch of little cursive Os. Even though the path was more complicated than a circle, it is what I perceived. Although this has nothing to do with physics, I thought the actor's suits were interesting.

01/27/13 04:34 pm
The fact that the ball moved at a half-parabola to compensate for the moving stand yet appeared to be moving exactly downward when the slow-mo camera was fixed. Thinking about how we automatically change frames of reference got me thinking about how I have trouble capturing real-life images in the correct frame of reference. The way things seem faster, slower, or constant depending on position and reference with the puck was intriguing, and while we've discussed it before, it was great to see it done in a concrete physical manner. The fact that acceleration plays such a large role was astounding. Inertial frames are terrifying, as are fictitious forces. The effects of rotation were fascinating and sometimes confusing.

01/27/13 04:53 pm
I found the way the the material was presented to be very interesting. The way they were able to change the reference frame to explane and give examples, helped me understand the importance of time proper and two-clock.

01/27/13 05:47 pm
5) The most interesting part to me was when one of the physicists was passing the puck to the other while the table was rotating and ended up having the puck return to him. I thought this was interesting because the puck was moving in a straight line, but even though I knew this, and I could even see the platform rotate, it still looked like the puck was moving in a circle to me. I was only able to see that it was moving in a straight line when the line was drawn on the screen.

01/27/13 05:52 pm
"All frames of reference moving at constant velocity with repect to one another are equivalent." It explains so much. How people can walk in the aisles on a flying airplane, and hear each other. How you can see what people are doing in real time in a car next to you on the freeway. Or how watching someone run past you while you are standing--you both have two completey different points of view, and therefore, experiences.

01/27/13 06:40 pm
Through out the film, the two host used camera trick imagery to disorient the viewer. The number of illusions that were used/created simply astounded me. It made me think of every magic show I ever watched and how the use of physics could have been used to help performers with their illusions. Not to mention the reveal of every trick presented impacted me as a film maker as well. I'm really glad I watched this film.

01/27/13 06:45 pm
The Foucault pendulum demonstrations (actually, aren't all pendulums this?), and the puck (vase?) sliding on the table. We haven't seen pendulums or reduced friction situations in class much.

01/27/13 07:06 pm
I'm surprised by the quality of the film over all. It's very engaging and knowledgable despite its age. Very impressive!

01/27/13 07:07 pm
The idea of ficticious forces in non-inertial frames of reference was very interesting, it wasn't really a thought that occurred to me before that there "must" be a force in order to explain motions that don't seem to make sense.

01/27/13 07:16 pm
the inertial frames in which the laws of inertia do not hold are weird. I'm used to forces have to act on the object and it's just odd to see that disproved

01/27/13 07:39 pm

All of it, just the way they presented it was very fun for me to watch. The begging with him hanging upside down, just loved all those little tricks. When the wall moved behind him and it looked like he was moving. It all reminded me of Magic shows where their whole job is to play with your perceptions. Now i know most magicians are really just physicists.

01/27/13 07:57 pm
The dropping ball!! It totally seemed like it was falling straight down but it turns out it's actually a parabolic fall when the cart was going at constant velocity. But then when the cart was accelerating, the path of the ball was the same but it landed in a different place. However, from the reference point of the moving cart, it seemed like it was being PUSHED by some phantom force (since the only force we can identify acting on it is gravity...). It sounds silly to someone who is in the earth's reference frame but it's the cart's reference frame's TRUTH. How can we argue with it?? It's not like we can say they're lying, or that they're missing information. Because even if we told them the truth from OUR reference point (relative to the earth), it doesn't dismiss the fact that the ball is still moving to the left.

01/27/13 08:01 pm
I was confused about the ball falling from the post on the plank. I tried to understand why the ball seemed to fall strait down. I saw that the post was carrying the magnet and kind of tossed it once it was released. It seems that the ball has just enough force while carrying it, that by dropping the magnet it will travel at the right speed and angular position to stay where the post is.

Part F - 6) Were you struck by any 'theatrical' moments in the film?

01/25/13 09:18 pm
...by the way, I meant fictitious forces in my previous answer. I didn't notice the typo until after I submitted. Anyway, one theatrical moment that stuck out to me was the introductory scene with the two professors when they revealed that Prof. Ivey was actually upside down on the ceiling. It really surprised and impressed me as I had never considered the possibility of him holding onto an object like that; initially I expected some kinda camera trick.

01/26/13 07:05 pm
The fact that we are always seeing the presenter's faces asides from when it would be impractical or impossible is also notable, voice-overs are more rare. There were several points where there were attempts at jokes. The whole video is set up very theatrically, with large, moving set pieces, and plenty of props, for example the final demo with a large pendulum with an arrow to orient the viewers.

01/27/13 08:11 am
Inertia as a Fictitious Force when considering an acceleration frame of reference.

01/27/13 01:37 pm
I was really struck by how the camera came into play for the frames of reference. Film students know this as "Mise-en-scene" (within the frame), It was both unexpected and interesting to know that this film theory all works according to physics principles.

01/27/13 04:03 pm
The chosen frames of reference were sometimes very surprising when trying to visualize what was actually moving at a given time.This was effective in convieing that these movements are only relative to the perspective of someone from a given frame of reference, and what is seen as moving can be completely different from another frame of reference.

01/27/13 04:17 pm
This is a little thing but the chalkboard diagram of a two-person puck-sliding cart was very well-drawn. It gave me the feeling that the creators of the film were interested in the little details.

01/27/13 04:28 pm
I thought that the opening sequence was pretty creative where they create an expectation using a prop (the pipe) that one person is definitely right side up, and then confound that expectation.

01/27/13 04:35 pm
The opening was pretty funny, and reinforced that everything happening existed in the real world. The

sheer amount of moving parts and tools gave the thing a fun-house quality. I found the dry-ice passing scene funny and kind of sweet. The race-car quality of the accelerating ball drop was surprisingly intense. The rotating table scenes were really clever, and revealed the skeletal underside of the film. Overall this film was much funner than an educational film should be.

01/27/13 05:53 pm
Of course the intro was awesome; I understood who was upside down instantly--one man was walking, the other was stationary. I enjoyed the waiting while I was sure of, and then validated, of my interpretation.

01/27/13 06:43 pm
I was struck at the beginning, when we think that the person that comes in firsts is right side up.

01/27/13 06:47 pm
A theatrical moment which struck me was when I realized that the introductory scene was one continuous shot that was several minutes long. These men really held their composure and were comfortable enough with the material to show different examples of frames of reference in one go.

01/27/13 06:48 pm
No. I was like, "it's 1960, you're not that clever Spiderman". I like their set, though and I praise their editing for appropriateness.

01/27/13 07:03 pm
I really liked how they used the set, and how pretty much the entire thing was movable. I also really liked the beginning of the video, and the techniques in general.

01/27/13 07:10 pm
The initial moments introducing the idea of frames of reference felt very "theatrical" and cool. The way the hosts kept flipping our ideas about who was in what frame of reference was pretty boggling, and disconcerting and weird, which I'm pretty sure they were going for.

01/27/13 07:40 pm
As stated above i really enjoyed them. The one i had troble with was the puck on the rotating counter. I knew it was going in a straight line but i just couldn't manage to see it. Everything else was just wonderful, i could easily predict the motion of the mind tricks they used but it was still fun to watch all of them.

01/27/13 07:47 pm
The intro of the film, having the camera and the man upside down was well done. I imagine in 1960 this may have been more impressive a sight. Coupled with the moving wall bit, really attacked set ideas about frames of references.

01/27/13 08:01 pm
I thought that the way that the slow motion camera was presented as the audience taking a look into it, as if we were behind the first camera and had a choice.

Part G - 7) What did you see that you now have questions about that you might not have had before (or that you had before but continue to have)?

01/25/13 09:22 pm
I really want to know more about the logistics of fictitious forces because they baffle me. If the forces don't actually exist, how do you explain the motions of the objects such as the puck falling at an angle through the air?

01/26/13 04:14 pm
One thing that piqued my curiosity relates to free fall/null gravity equivalence... if any frame of reference is NOT in free-fall, that is to say, is static in a strong gravity well, is gravity more of a fictitious force than a real force? It strikes me that an object in uniform motion in curved space-time appears to be accelerated by a force but is it really? Is the gravitational influence an aberration of the frame of reference in which the acceleration is viewed?

01/27/13 08:15 am
How does Inertia change, if at all, when observing from different frames of reference.

01/27/13 04:27 pm
I was thinking about the part of the film where the cart is still accelerating when the ball is dropped. With a reference frame of the cart, the ball seems to fall to the left. I was imagining a similar scenario where the cart is accelerating when the ball falls, but then the cart begins to decelerate when the ball is halfway down, that way the ball ends up landing in the middle. With the cart as the frame of reference, what would be the trajectory of the ball?

01/27/13 04:36 pm
How are things not more affected by motion at a constant speed? Why does the u+v equation break apart? Is it because of light speed? Why is acceleration really so important? How do we calculate inertial frames? I'm also a bit confused about accelerated forces and fictitious forces, but engaged nonetheless.

01/27/13 04:46 pm
In the last scene with the swinging pendulum on the turntable I'm not sure if the pendulum was swinging stationary to the rotation of the turntable or if the rotation of the turntable was affecting the swinging of the pendulum.

01/27/13 05:47 pm
7) I am wondering why the line of sand left by the pendulum rotated over the course of the film. I assume that this was because the Earth was rotating over the course of the film, but I'm not sure why the pendulum doesn't rotate as well since it is hanging from a string that I assume must in some way also be connected to the Earth.

01/27/13 05:53 pm
I wanted to say none, but now that I am thinking about gravity, I am thinking about the question: can we now, or will we ever, be able to "control" or "aim" gravity?

01/27/13 07:46 pm
The part about the fictitious forces, and the ball drop on an accelerating cart made me very curious about general relativity.

01/27/13 10:34 pm
I am very intrigued by fictitious forces and how they work, I feel as though they were not explained in great detail.