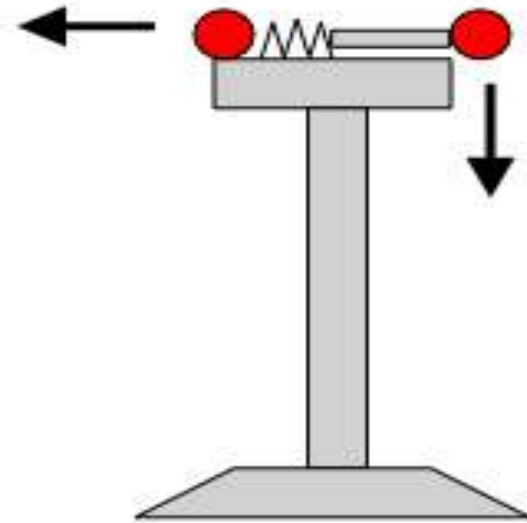


Which ball will hit first?



1. The shot one
2. The dropped one
3. They'll hit at the same time
4. You can't tell from the information given.



Two dense objects (so air drag can be ignored) are shot straight up at the same time from the same height.



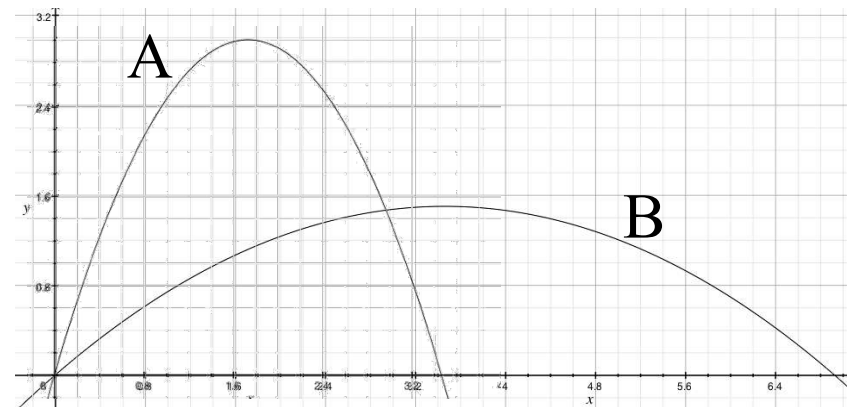
Object A is shot with a speed of 1 m/s, object B with a speed of 2 m/s. Which takes longer to come back to its starting point?

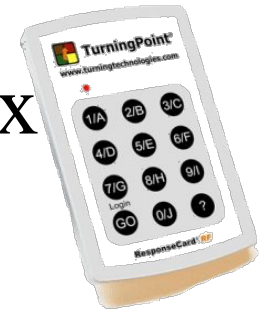
1. Object A
2. Object B
3. Both take the same.
4. I can't tell since you didn't give me the masses.
5. I can't tell for some other reason.



Two dense objects (so air drag can be ignored) are shot up at the different angles at same time from the same height. They follow the trajectories shown. Which will hit its target first??

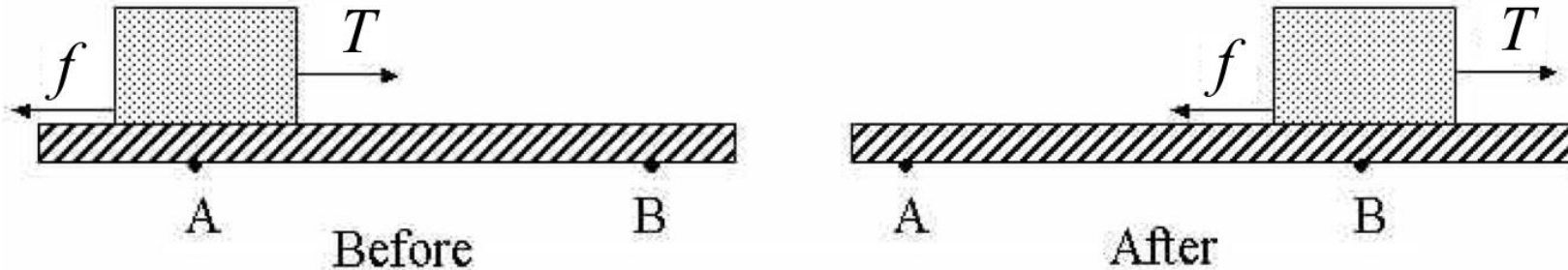
1. Object A
2. Object B
3. Both the same.
4. I can't tell since you didn't give the masses
5. I can't tell for some other reason.



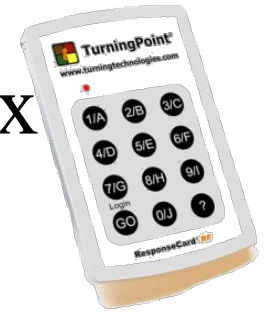


Using a rope of negligible mass, you pull a box with a constant force T . The box moves to the right at a constant velocity from A to B.

Friction, f , can't be neglected. Which are true?

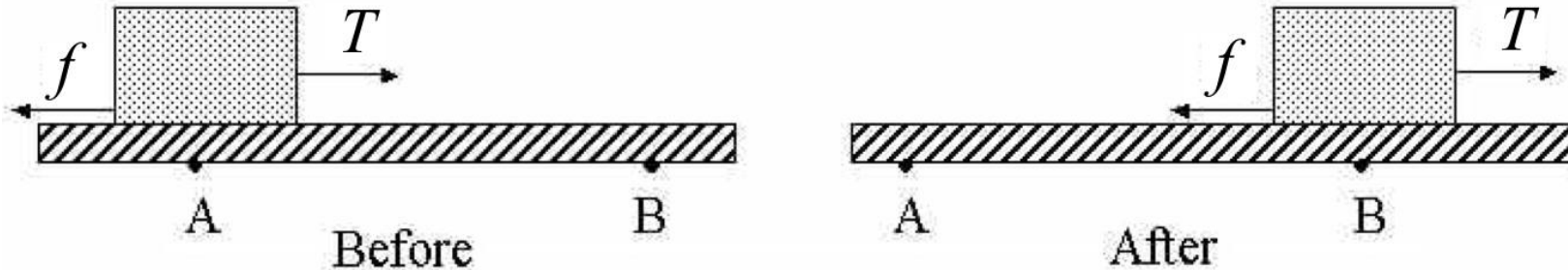


- A. The impulse given to the box by the gravitational force is $\neq 0$.
- B. The impulse given to the box by f points to the right.
- C. The net impulse on the box created by the net force is $\neq 0$.



Using a rope of negligible mass, you pull a box with a constant force T . The box moves to the right at a constant velocity from A to B.

Friction, f , can't be neglected. Which are true?

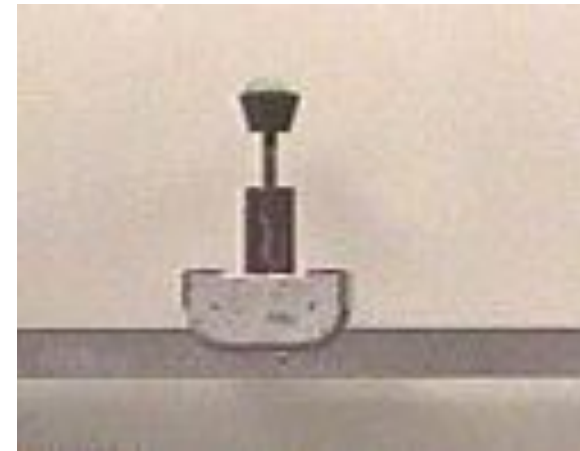


- A. The magnitude of the impulse given to the box by T is equal to the magnitude of the impulse given to the box by f .
- B. The magnitude of T is greater than the magnitude of f .

Will the cart catch the ball?



1. No. The ball will fall behind the cart.
2. No. The ball will fall ahead of the cart.
3. Yes
4. It depends on how fast the cart is traveling.
5. You can't predict.



Will the cart catch the ball?



1. No. The ball will fall behind the cart.
2. No. The ball will fall ahead of the cart.
3. Yes
4. It depends on how fast the cart is traveling.
5. You can't predict.



Will the cart catch the ball?



1. No. The ball will fall behind the cart.
2. No. The ball will fall ahead of the cart.
3. Yes
4. It depends on how fast the cart is traveling.
5. You can't predict.

