Question 1

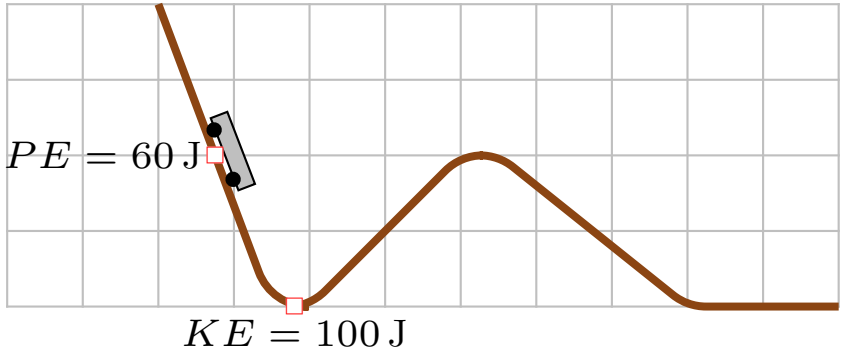
In the animation, the skater is replaced by a much lighter dog. The dog is released from rest at the the same height as the skater was.

Which of the following is true?

1. Energy of the dog is smaller than that for the man.
2. Energy of the dog is larger than that for the man.
3. Energy of the dog is same as that for the man.
4. Energy of the dog at release is same, but increases as the dog descends.
5. Energy of the dog at release is same, but decreases as the dog descends.

Question 2

A cart slides along a track as illustrated. The lowest point on the track is at ground level. Various energies are shown at the indicated points.

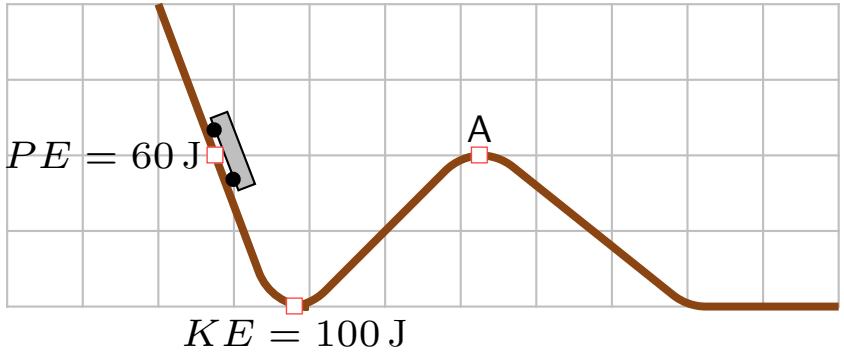


What is the total energy of the cart?

1. $E = 160\,\mathrm{J}$
2. $E = 100\,\mathrm{J}$
3. $E = 60\,\mathrm{J}$
4. $E = 40\,\mathrm{J}$

Question 3

A cart slides along a track as illustrated. The lowest point on the track is at ground level. Various energies are shown at the indicated points.



Which of the following is true at point A?

1. $PE = 100\,\mathrm{J}$ $K = 0\,\mathrm{J}$
2. $PE = 100\,\mathrm{J}$ $K = 60\,\mathrm{J}$
3. $PE = 60\,\mathrm{J}$ $K = 0\,\mathrm{J}$
4. $PE = 60\,\mathrm{J}$ $K = 40\,\mathrm{J}$
5. $PE = 40\,\mathrm{J}$ $K = 60\,\mathrm{J}$

Question 4

A pendulum is released from rest. The string encounters a "peg" in its path. Which indicates the highest point that the pendulum ball reaches after the string strikes the peg?