

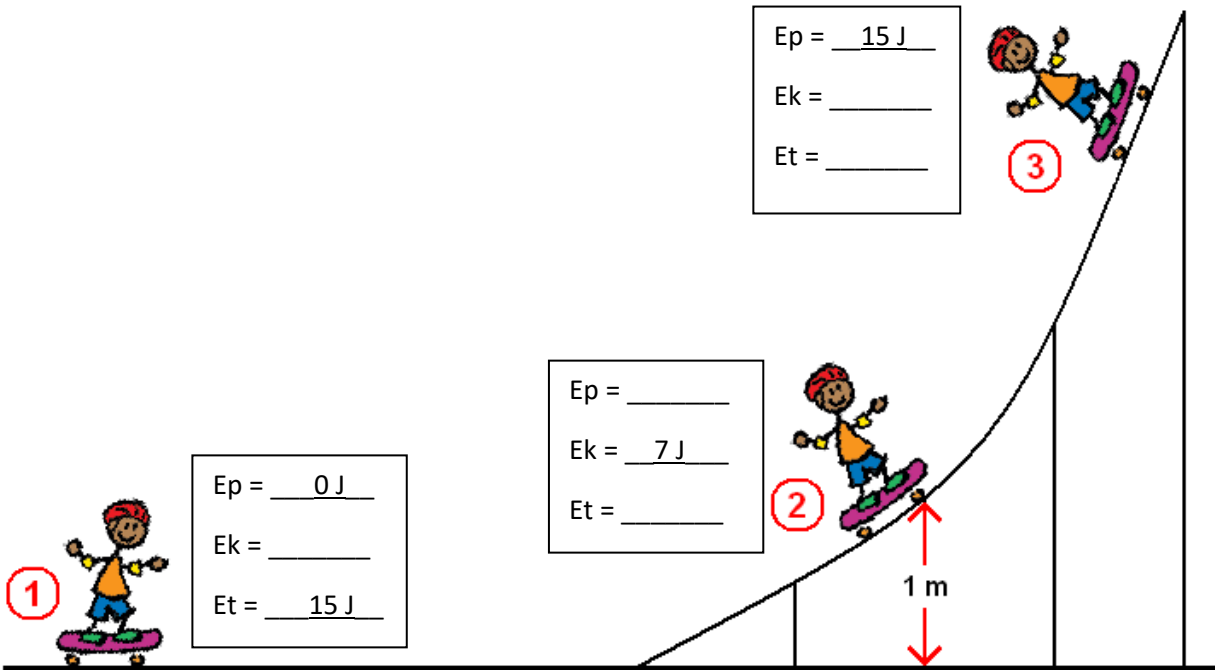
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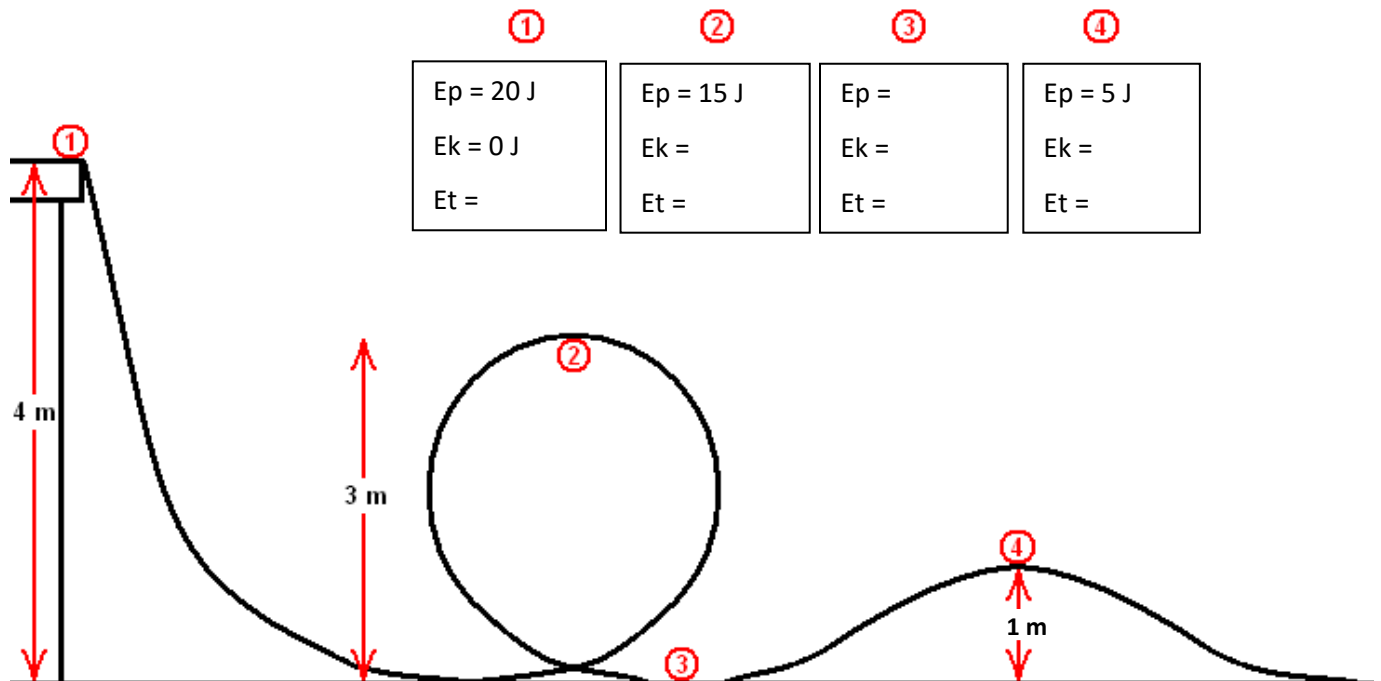
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Conservation of Energy 1

1) Fill in the missing values.



2) Fill in the missing values.

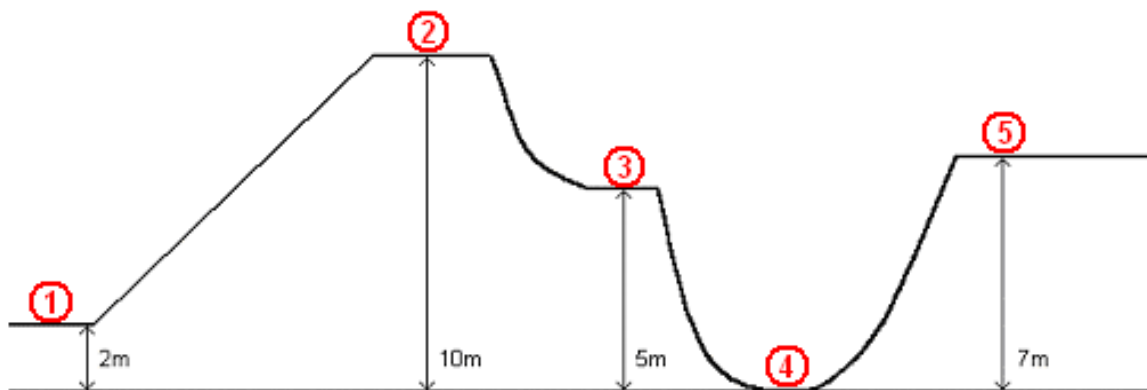


3) A 1.8 kg box is dropped from the top of a building. Its speed is 4.8 m/s when it is 2.9 m above the ground. What is the total energy at this point?

4) A young 28 kg Mr. Nguyen swings on a swing travelling 4.2 m/s. What is her potential energy if her total energy is 315 J?

5) Fill in the missing values for a 2 kg object to the nearest whole number.

①	②	③	④	⑤
$E_p =$	$E_p =$	$E_p =$	$E_p =$	$E_p =$
$E_k = 170 \text{ J}$	$E_k =$	$E_k =$	$E_k =$	$E_k =$
$E_t =$	$E_t =$	$E_t =$	$E_t =$	$E_t =$



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Conservation of Energy 2

- 1) Sequoia is traveling on a 1500 kg boat travelling 30 m/s over a 1.5 m wave. What is the total energy of the boat at this time?

- 2) Anna and Anika are in a roller coaster cart travelling at 15 m/s that has a mass of 135 kg. If the total energy is 118381 J what height are they at?

- 3) What is Aleah's speed if she has a total energy of 200000 J when travelling in a 875 kg car on a hill that is 13 m tall?

- 4) How fast was Garrett running if he was 2 m off the ground, has a mass of 65 kg and a total energy of 1600 J?

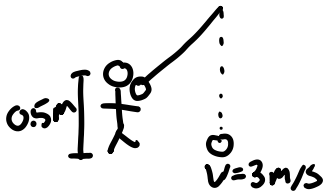
- 5) Taeghan is on a swing travelling 6 m/s at the bottom of her swing. What height will she reach if she has a mass of 56 kg?

- 6) Ella and Erica are racing on their bikes. Ella and her bike weigh 93 kg at a height of 5 m travelling at 15 m/s, Erica and her bike weigh 88 kg at a height of 6 m. If they both have the same total energy who is travelling faster?

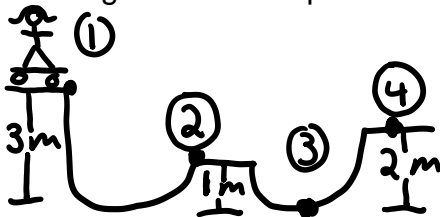
7) Bonnie-Jean is swimming over a wave with a speed of 8 m/s and a total energy of 3377 J. If her mass is 55 kg how tall is the wave?

8) Kaitlyn is driving in a 745 kg car through some hills. At the top of a 33 m hill she has a speed of 73 km/h. What would her speed be in km/h at the top of a 27 m hill?

9) Adam swings a 17 kg pendulum, at its lowest point it has a speed of 3 m/s. If his face is 0.5 m from the ground will the pendulum hit him?



10) Hannah rides her longboard at the skate park. If her and the board have a mass of 74 kg what is her speed at each point if she starts at rest?



11) Braden and Raegan are cross country skiing. Braden has a mass of 62 kg and reaches a speed of 4 m/s on a 3 m high hill. If Raegan has a mass of 59 kg and the same total energy as Braden, what will her speed be on the same hill?