

Name:

“CPR” Quiz #1 - Intro to GPE and KE

Attempt Description	Colour Highlighter or Pen	What does this tell you?
1st - Just your brain		What you already have in your long-term memory.
2nd - Just your notes/resources		What you understand, but not in your long-term memory.
3rd - With support from classmates or teacher		What you don't understand.

When it comes to studying effectively, make sure you start with the material that was the 3rd attempt colour because that is what needs the most work.

You may find the following formulae useful.

$$E_k = \frac{1}{2}mv^2 \quad \Delta E_p = mg\Delta h \quad g = 10 \text{ N kg}^{-1} \quad W = Fd$$

$$E(\text{thermal}) = mc\Delta T \quad E(\text{thermal}) = mL$$

$$P = VI \quad V = RI \quad \Delta E = P\Delta t$$

This question was taken from the expired 2022 Mechanics Exam, Question 2.



A sandhill has a vertical height of 25 m. Ariana and her sandboard have a mass of 55 kg.

(c) Ariana rides her sandboard from the top of the 25 m hill to the bottom.

(i) Calculate the gravitational potential energy of Ariana and her sandboard at the top of the hill.

[Delete and write your answer.]

(ii) Her speed at the bottom of the hill is 12 m/s. Calculate the kinetic energy of Ariana and her sandboard at the bottom of the hill.

[Delete and write your answer.]

(iii) Explain the differences between her gravitational potential energy at the top of the hill and her kinetic energy at the bottom of the hill.

[Delete and write your answer.]