

Noah

KE (01)

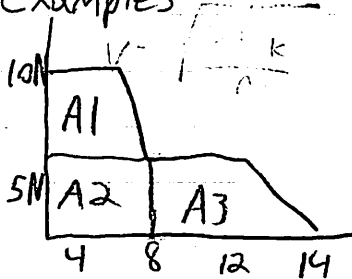
Summary for KE - KE is an expression of the fact that a moving object can do work on anything it hits; it quantifies the amount of work the object could do as a result of motion.

Tips - Always times the mass by $.5$, Also to square the velocity.

examples of KE and formula:

$$\text{Formula} = KE = \frac{1}{2}mv^2$$

examples



$$\text{total area} = 30 + 40 + 25 = 95$$
$$Ek = 95 \text{ J}$$

example - what is the KE of a 45kg object moving at 13 m/s

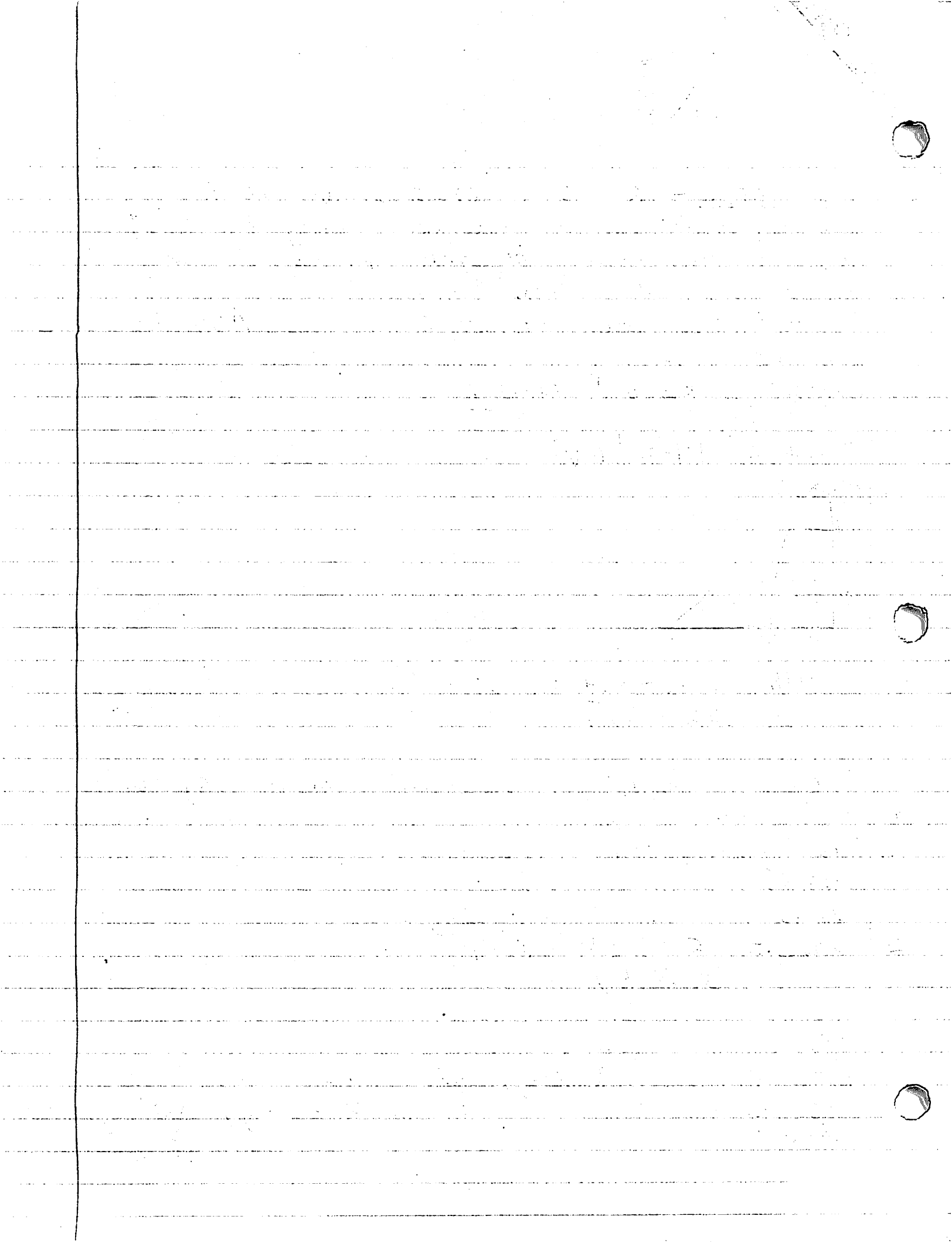
1. first identify the information
 $m = 45$

$$v = 13 \text{ m/s}$$

2. solve = $KE = \frac{1}{2}(45)(13 \text{ m/s})^2$
 3802.5 J

1. solve on your own

The kinetic energy of a boat is 52,000. If the boat has a mass of 39,000 kg, what is the velocity



KE and CoE

- A quick summary
- Tips and tricks
- Pictures and drawings and graphs, and diagrams
- All formulas
- 1-5 practice problems

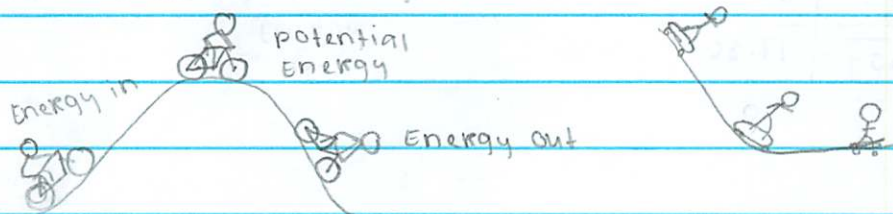
Summary:

Conservation of energy is a principal stating that energy cannot be created or destroyed, but it can be altered from one form to another

Tips and tricks:

I don't know what to write for this...

Pictures and drawings:



All formulas:

$$PE_1 + KE_1 = PE_2 + KE_2$$

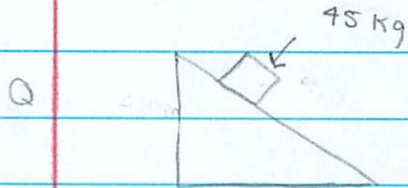
$$W = \text{WORK} = P_2 V_2 - P_1 V_1 + W_{sh}$$

$$EK_i + EP_i + W = EK_f + EP_f$$

Practice Problems

Q How can energy be converted to make electricity?

A - Solar power & The energy from water can be used to rotate the turbine of a generator to produce electricity.



If a box at a top of a hill slides down and the kinetic energy is 136215 J, what is the velocity if the mass of the box is 45 kg

A

$$KE = \frac{1}{2} mv^2$$

$$136215 = \frac{1}{2} 45 v^2$$

$$\frac{136215}{22.5} = \frac{22.5 v^2}{22.5}$$

$$6054 = v^2$$

$$\sqrt{6054} = 77.80$$

$$v = 77.80$$