

# Announcements – 3 Oct 2013

1. **Exam 2 starts today!**
  - a. Exam ends Wed Oct 7 (late fee after Tues, 2 pm)
  - b. Covers mainly Chapters 4 & 5, Homeworks 5-10<sup>\*</sup>
  - c. Format: just like last exam
  - d. 30 problems
  - e. Time estimate: 2 hours 15 mins on average
2. **TA Exam review**
  - a. Tonight, 7:30 – 9 pm.
  - b. Place: W112 BNSN

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<sup>\*</sup> There isn't really a HW 10

# Experimental Problem

How much “horsepower” can a person generate?

Experiment: jumping from a stand-still → Volunteer needed!

Parameters:

mass (kg) = \_\_\_\_\_

measured height jumped (m) = \_\_\_\_\_

measured “impulse time” (s) (time while legs are exerting force on ground)

= \_\_\_\_\_

What was the work done by his/her body during the impulse time?

How much horsepower?

## Clicker quiz

A car weighing 3000 N moves at a speed of 30 m/s on level ground. To do this, it pushes backwards on the road with a 5000 N force. What is the power output of the car engine?

- a. 0 kW
- b. 60 kW
- c. 90 kW
- d. 150 kW
- e. 240 kW

→ Where does this power go? If the car moves at constant speed, it's not used to accelerate the car.

## From warmup

Ralph sees that his car's engine is rated at 100 hp. He thinks, "Cool, this means if I ever get in a tug of war with 90 horses, I will win!" Is he thinking about this correctly? What should you tell him?

**“Pair share”**—I am now ready to share my neighbor’s answer if called on.  
a. Yes

# Bungee jumping: types of energy

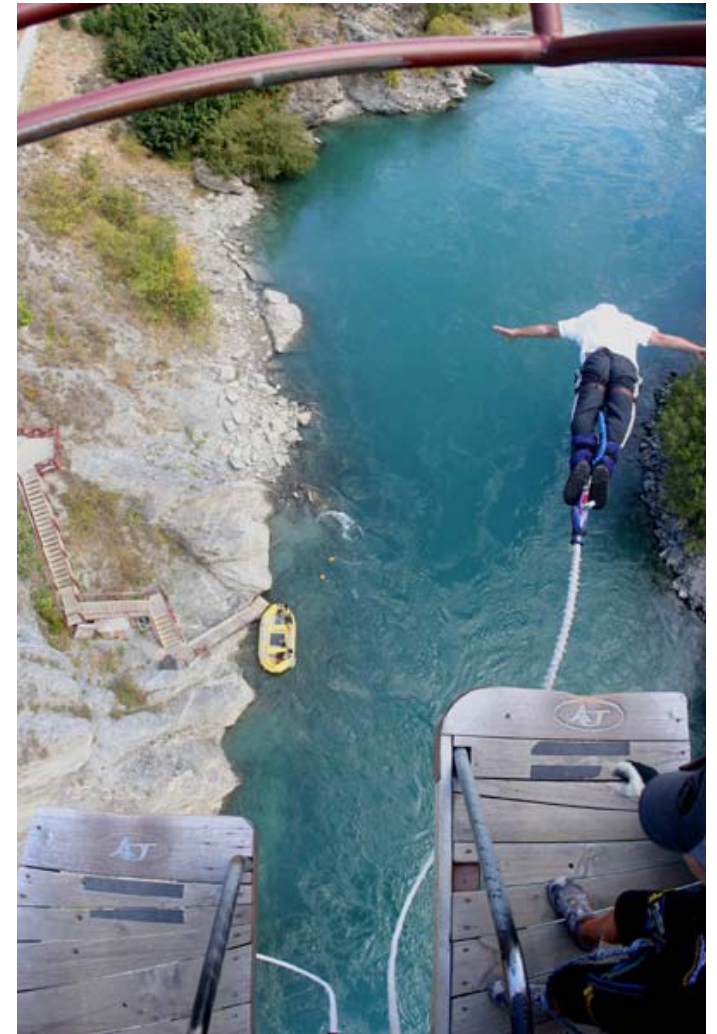
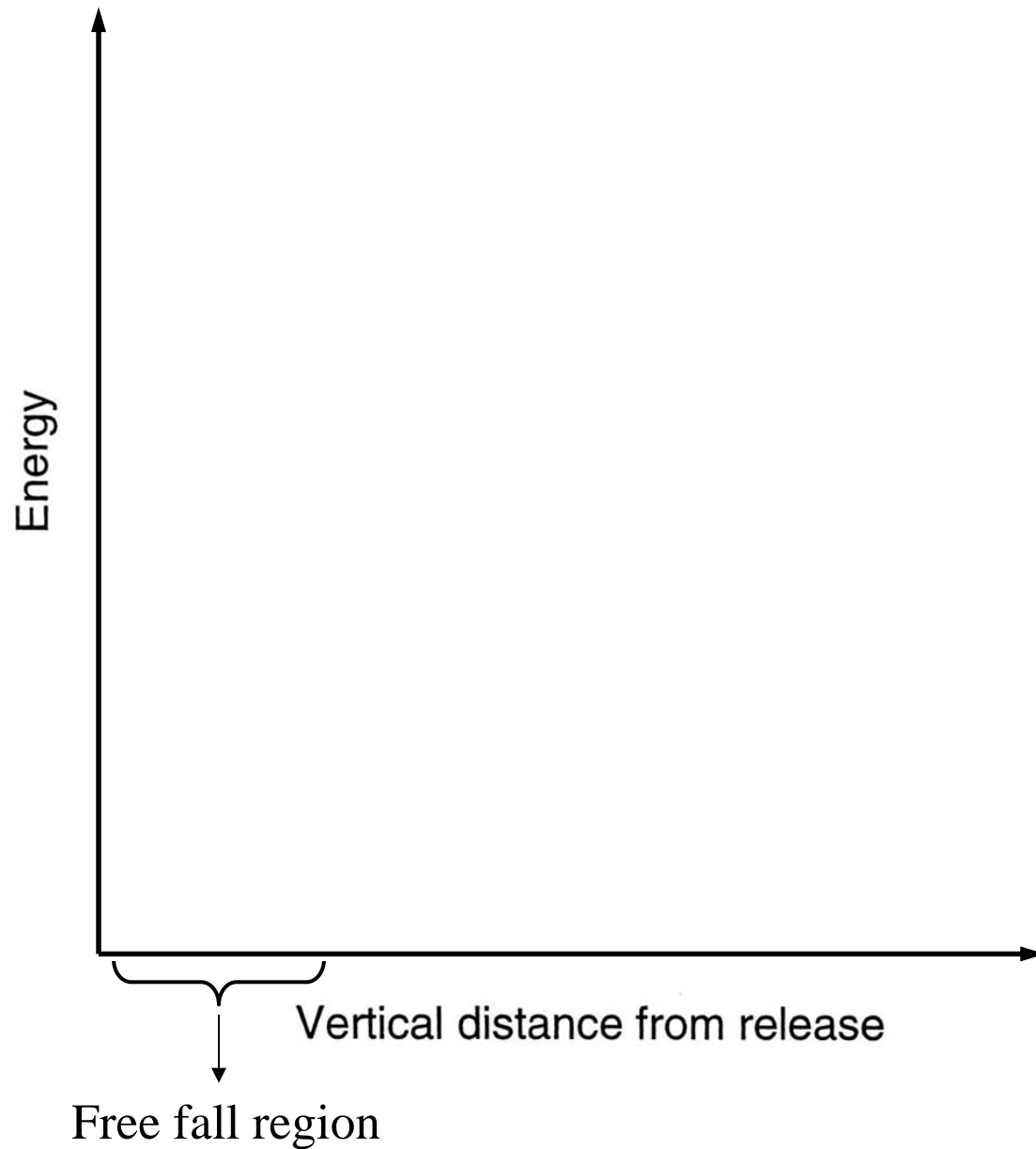
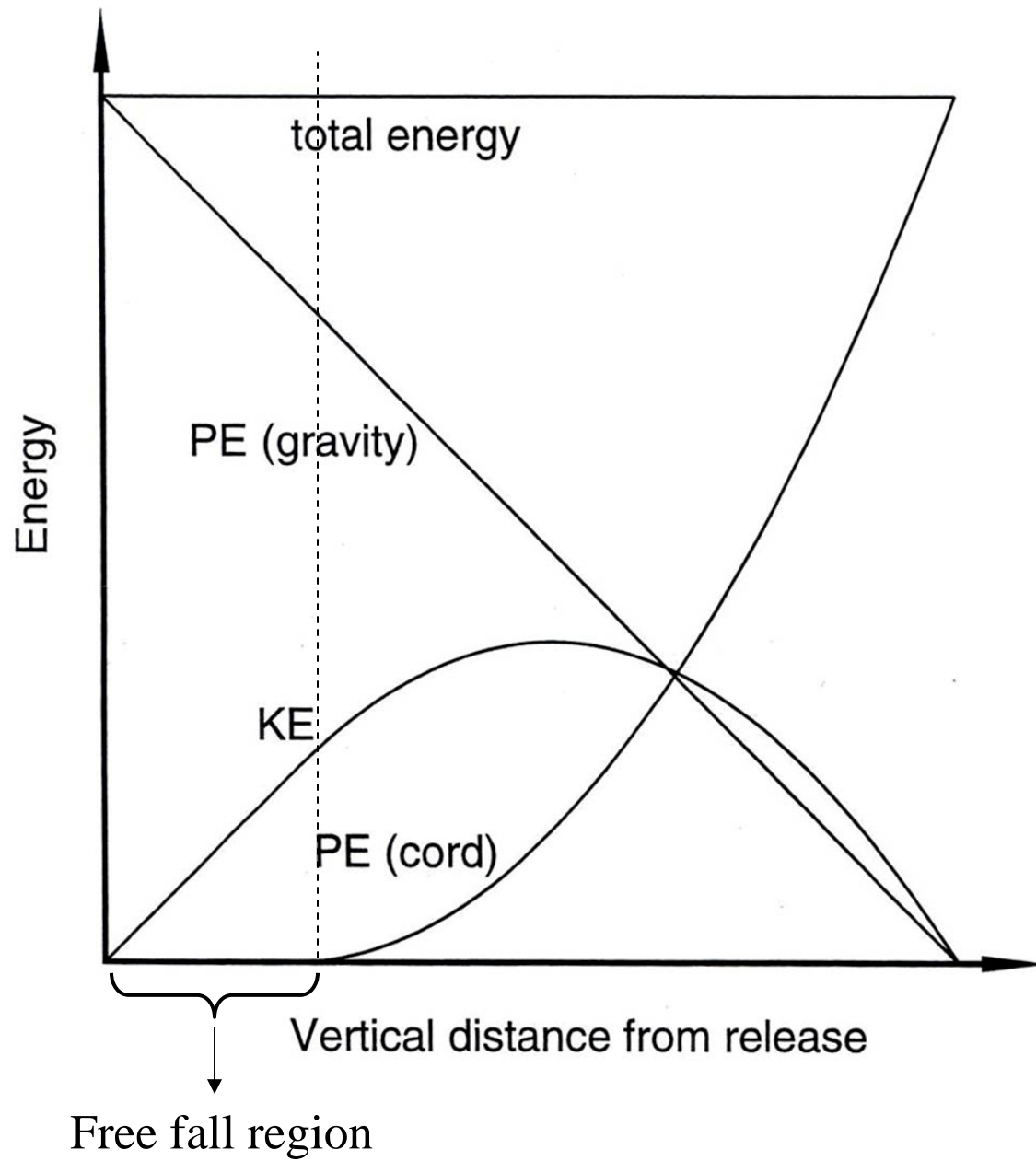


Image credit: Wikipedia



# More Exam Info

## Things to study like last time

- a. HW
- b. Worked problems from class
- c. Old midterms/final exams, posted to website
- d. Conceptual questions from class (clicker quizzes, etc)
- e. Warmup questions
- f. Demo videos
- g. Textbook, to fill in gaps of things you didn't get
- h. Also: a couple of problems from last exam will return

**Also, be sure to go over the “Chapter Summaries of Mathematical Relations” for these chapters, if you haven't been using it as you go along**

## Details of exam problems...



## ***Requested Problems from Past Exams...***





















