

WORK REDEMPTION HW

Each of the following questions is worth 2 points of redemption on HW 14 (the Work hw). It is due Monday.

- (1) A pyramid has a square base of 1000 feet, and it is 400 feet high, and it is made of stone weighting 40 pounds per cubic foot. Assuming all the stone was originally at ground level before it was made, how much work was done to make the pyramid?
- (2) A rope is 100 feet long and is pulling up a leaky bucket of sand. The rope weights 2 pounds per foot, the bucket weighs 10 pounds, and the sand in the bucket initially weighs 30 pounds. You start to pull up 3 feet of rope per second, and at the same time you lose 2 lbs of sand per second because. How much work did you do during the first 10 seconds?