

# SIMPLE HARMONIC MOTION: PENDULUMS Unit 21

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## The Audience as Art Movement

Ann Hamilton at the Park Avenue Armory



The event of a thread Ann Hamilton's installation at the Park Avenue Armory features 42 swings, whose use by visitors agitates an immense curtain.

**INTRODUCTION:** These pendulum swings are 128 long. Period( $T$ ) of a pendulum =  $2\pi[L/g]^{1/2}$ ,  $f(\text{frequency})=1/T$   
0.304 meters/ft.,  $g = 32 \text{ ft/s}^2$ ,  $g = 9.8 \text{ m/s}^2$ ,  $\pi = 3.1416$

**HINT:** The period( $T$ ) is time to make one complete trip on swing back and forth. The frequency ( $f$ ) is the number of swings back and forth in a given amount of time.

**QUESTIONS:** (a) Find the period of this pendulum using the length in ft and English  $g$ ? (b) Convert 128 ft. to meters? (c) Find period using the metric length for 128 ft and metric  $g$ ? (d) Find frequency in swings/s and swings/min?

**ANSWERS:** (a) 12.56 s, (b) 38.912 m (c) 12.56 s, (d) 0.0796 swings/s or 4.78 swings/min.

Anyone who liked swings as a child — and that should include quite a few of us — will probably feel a surprisingly visceral attraction to [Ann Hamilton's](#) installation "the event of a thread" at the [Park Avenue Armory](#).

### Swings and Things



#### [Ann Hamilton's 'event of a thread'](#)

The work is the latest from one of the more self-effacing orchestrators of installation-performance art, and her first new piece in New York in more than a decade. It centers on an immense, diaphanous white curtain strung across the center of the armory's 55,000-square-foot Wade Thompson Drill Hall. Dispersed on either side **are 42 large wood-plank swings, suspended from the hall's elaborately trussed ceiling beams by heavy chains that are also tied to the rope-and-pulley system that holds up the curtain.** The swings, which are clearly not built for small children, are wide enough to accommodate two, or sometimes even three, adults or adolescents. At the opening on Tuesday evening, people swung singly and in pairs, slow and low or higher and faster, often with helpful pushes from friends. The air filled with sounds of glee punctuated by cellphone rings, which actually sounded great in the general hubbub.