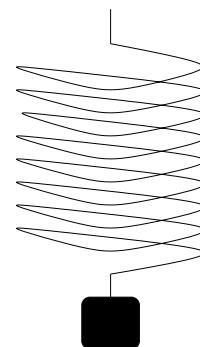


## Quiz #5

SHOW YOUR WORK

1. (5 points) Tafu attaches a weight to a spring, as shown, and gives it a tug. He models the height of the weight above his desk with the formula  $y = 7 + 4 \sin \left[ \frac{\pi}{3} (t - 1) \right]$ , where  $y$  is in inches and  $t$  is in seconds. Give a formula for the velocity of the weight at time  $t$ .



2. (5 points) During the first 9 seconds, when is the velocity of the weight equal to  $-\frac{2\pi}{\sqrt{3}}$  inches per second?