Name:_____

Section:_____

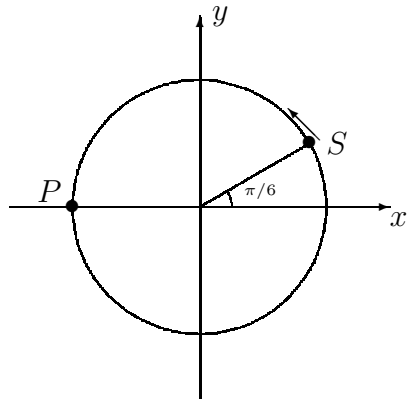You may use a calculator to complete this quiz. No notes please. Show all work.

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1. (4 points) If $f(t) = \cos t$ and $g(t) = \frac{t}{4}$, compute:

   (a) $f(g(\pi))$

   (b) $g(f(\pi))$

2. (6 points) Sara is running, at a constant speed, counter-clockwise around a circular track with radius 80 feet. Sara starts running (at time $t = 0$) at the point labelled S below, while Pete stands at the point labelled P below. Pete times Sara and finds that it takes her 19.04 seconds to run from point S to point P.

(a) Compute Sara's linear speed in feet per second.

(b) Find the coordinates $(x(t), y(t))$ of Sara's location after t seconds.