$y = \sin^2(6\pi t+1) = f(g(u(t)))$

$f(t)=t^2$, $g(t)=\sin t$, $u(t)=6\pi t+1$ → u

$$\frac{dy}{dt} = \frac{d}{dt}\left(f(g(u(t)))\right)$$

$w = g(u(t)) = \sin(6\pi t+1)$, $f(w)=w^2$

$$\frac{d}{dt}f(g(u(t))) = \frac{d}{dt}(f(w)) = \frac{dw}{dt}\cdot\frac{df(w)}{dw} = \frac{dw}{dt}\cdot\frac{d}{dw}(w)^2$$

$$= \frac{dw}{dt}\cdot(2w) = \frac{dw}{dt}\cdot(2\sin(6\pi t+1))$$

$w = g(u(t)) = g(u) = \sin(u) = w(u)$

$$\frac{dw}{dt} = \frac{du}{dt}\cdot\frac{d(w(u))}{du} = \frac{du}{dt}\cdot\frac{d}{du}(\sin(u)) = \frac{du}{dt}\cdot\cos(u)$$

$$= \frac{du}{dt}\cdot\cos(6\pi t+1)$$

$$\frac{du}{dt} = \frac{d}{dt}(6\pi t+1) = \frac{d}{dt}(6\pi t) + \frac{d}{dt}(1) = 6\pi\frac{dt}{dt} + 0$$

$= 6\pi\cdot 1 + 0 = 6\pi$

$$\frac{dw}{dt} = 6\pi\cdot\cos(6\pi t+1)$$

$$\frac{dy}{dt} = (6\pi\cos(6\pi t+1))\cdot(2\sin(6\pi t+1))$$

$$= 12\pi\sin(6\pi t+1)\cos(6\pi t+1)$$