(a) $f'(x) = \cos\left(\frac{x^{-3}}{e^{-x}}\right)\left(\frac{x^{-3}}{e^{-x}}\right)'$

$= \cos\left(\frac{x^{-3}}{e^{-x}}\right)\left(\frac{e^{-x}(x^{-3})' - x^{-3}(e^{-x})'}{(e^{-x})^2}\right)$

$= \boxed{\cos\left(\frac{x^{-3}}{e^{-x}}\right)\left[\frac{e^{-x}(-3x^{-4}) - x^{-3}e^{-x}(-1)}{(e^{-x})^2}\right]}$

(b) $g'(x) = \frac{1}{2}\left(\frac{x^2+2}{x^2+4}\right)^{-1/2}\left(\frac{x^2+2}{x^2+4}\right)'$

$= \boxed{\frac{1}{2}\left(\frac{x^2+2}{x^2+4}\right)^{-1/2}\left(\frac{(x^2+4)(2x) - (x^2+2)(2x)}{(x^2+4)^2}\right)}$

(c) $h'(x) = 8(x+\cos^2 x)^7 (x+\cos^2 x)'$

$= 8(x+\cos^2 x)^7 (1 + 2\cos x(\cos x)')$

$= \boxed{8(x+\cos^2 x)^7 (1 + 2\cos x(-\sin x))}$