

$$\begin{aligned}
 (a) \quad f'(x) &= 3 \tan^2(7x^2+5) (\tan(7x^2+5))' \\
 &= 3 \tan^2(7x^2+5) \sec^2(7x^2+5) (7x^2+5)' \\
 &= \boxed{3 \tan^2(7x^2+5) \sec^2(7x^2+5) (14x)}
 \end{aligned}$$

$$\begin{aligned}
 (b) \quad g'(x) &= \cos(\cos(e^x)) (\cos(e^x))' \\
 &= \cos(\cos(e^x)) (-\sin(e^x)) (e^x)' \\
 &= \boxed{\cos(\cos(e^x)) (-\sin(e^x)) (e^x)}
 \end{aligned}$$

$$\begin{aligned}
 (c) \quad h'(x) &= \frac{\ln(x^2+1) (5x^2+7x)^3}' - (5x^2+7x)^3 (\ln(x^2+1))' \\
 &\quad (\ln(x^2+1))^2 \\
 &= \frac{\ln(x^2+1) 3(5x^2+7x)^2 (5x^2+7x)' - (5x^2+7x)^3 \frac{1}{x^2+1} (x^2+1)'}{(\ln(x^2+1))^2} \\
 &= \boxed{\frac{\ln(x^2+1) 3(5x^2+7x)^2 (10x+7) - (5x^2+7x)^3 \frac{1}{x^2+1} (2x)}{(\ln(x^2+1))^2}}
 \end{aligned}$$