CH:-DERIVATIVES(ADVANCED) CLASS XII

WORKSHEET

1. Differentiate w.r.t x $\log_7(\log x)$.
2. Differentiate w.r.t x $\cos^{-1}(\sin x)$.
3. Find f'(x) if $f(x)=(\sin x)^{\sin x}$ for all $0<x<\pi$.
4. Differentiate w.r.t x cos(acosx+bsinx), for some constant a and b.
5. If cosy=xcos(a+y), with cosa≠ 1, prove that $\frac{dy}{dx}=\frac{cos^2(a+y)}{sina}$.
6. If f(x)=$|cosx|$,then find f'($\frac{3\pi}{4}$).
7. If f(x)=$|cosx-sinx|$, then find f'$\left(\frac{\pi}{6}\right)$.
8. If $ax^2+2hxy+by^2+2gx+2fy+c=0$, show that $\frac{dy}{dx}.\frac{dx}{dy}=1$.
9. Find the derivative of
   $\cos^{-1}\left(\frac{sinx+cosx}{\sqrt{2}}\right), -\frac{\pi}{4}<x<\frac{\pi}{4}$.
10. If $x=\sqrt{a^{\sin^{-1}t}}$,$y=\sqrt{a^{\cos^{-1}t}}$,then show that $\frac{dy}{dx}=-\frac{y}{x}$.