









1.  $\frac{d}{dt} \sin t = \cos t$   
 2.  $\frac{d}{dt} \cos t = -\sin t$   
 3.  $\frac{d}{dt} \tan t = \sec^2 t$   
 4.  $\frac{d}{dt} \cot t = -\csc^2 t$   
 5.  $\frac{d}{dt} \sec t = \sec t \tan t$   
 6.  $\frac{d}{dt} \csc t = -\csc t \cot t$

7.  $\frac{d}{dt} \sin^{-1} u = \frac{1}{\sqrt{1-u^2}}$   
 8.  $\frac{d}{dt} \cos^{-1} u = \frac{-1}{\sqrt{1-u^2}}$   
 9.  $\frac{d}{dt} \tan^{-1} u = \frac{1}{1+u^2}$   
 10.  $\frac{d}{dt} \cot^{-1} u = \frac{-1}{1+u^2}$

11.  $\frac{d}{dt} \sec^{-1} u = \frac{1}{|u|\sqrt{u^2-1}}$   
 12.  $\frac{d}{dt} \csc^{-1} u = \frac{-1}{|u|\sqrt{u^2-1}}$

13.  $\frac{d}{dt} \arcsin u = \frac{1}{\sqrt{1-u^2}}$   
 14.  $\frac{d}{dt} \arccos u = \frac{-1}{\sqrt{1-u^2}}$   
 15.  $\frac{d}{dt} \arctan u = \frac{1}{1+u^2}$

16.  $\frac{d}{dt} \operatorname{arccot} u = \frac{-1}{1+u^2}$   
 17.  $\frac{d}{dt} \operatorname{arcsec} u = \frac{1}{|u|\sqrt{u^2-1}}$   
 18.  $\frac{d}{dt} \operatorname{arccsc} u = \frac{-1}{|u|\sqrt{u^2-1}}$   
 19.  $\frac{d}{dt} \operatorname{arcosh} u = \frac{1}{\sqrt{u^2-1}}$   
 20.  $\frac{d}{dt} \operatorname{arcoth} u = \frac{1}{1-u^2}$

