

$$5. r = \ln(\cos^{-1} x)$$

$$r' = \frac{1}{\cos^{-1} x} \cdot \frac{-1}{\sqrt{1-x^2}}$$

$$r' = \frac{-1}{\cos^{-1} x \sqrt{1-x^2}}$$

$$6. r = \log_2(\theta)^2$$

$$r' = \frac{1}{\ln 2} \cdot 2\theta$$

$$r' = \frac{2}{\theta \ln 2}$$

$$7. s = \log_5(t-7)$$

$$s' = \frac{1}{\ln 5(t-7)}$$

$$s' = \frac{1}{(t-7)\ln 5}$$

$$s' = \frac{1}{\ln 5(t-7)}$$

$$8. s = 8^{-t}$$

$$s = \ln 8(8^{-t})(-1)$$

$$s' = -\ln 8 \cdot 8^{-t}$$

$$*9. y = e^{\tan^{-1} x}$$

$$y' = e^{\tan^{-1} x} \cdot \frac{1}{1+x^2}$$

$$y' = \frac{e^{\tan^{-1} x}}{1+x^2}$$