If y = **sin**–1[(sina*sinx)/(1-cosa*sinx)] , then y’ (0) is:

$$y' = \arcsin'\left(\frac{\text{sina} * \text{sinx}}{1 - \text{cosa} * \text{sinx}}\right)$$

$$* \left(\frac{(\sin(a) * \sin(x))' * (1 - \cos(a)\sin(x)) - (1 - \cos(a)\sin(x))' * \sin(a) * \sin(x)}{(1 - \cos(a)\sin(x))^2}\right)$$

$$= \frac{1}{\sqrt{1 - \left(\frac{\text{sina} * \text{sinx}}{1 - \text{cosa} * \text{sinx}}\right)^2}}$$

$$* \frac{(1 - \cos(a)\sin(x)) * (\sin(a) * \cos(x)) - \sin(a) * \sin(x)\,(-\cos(a) * \cos(x))}{(1 - \cos(a)\sin(x))^2}$$

$$y'(0) = \frac{1}{\sqrt{1 - \left(\frac{\text{sina}*\sin 0}{1 - \text{cosa}*\sin 0}\right)^2}} \frac{(1 - \cos(a)\sin(0)) * (\sin(a) * \cos(0)) - \sin(a) * \sin(0)(-\cos(a) * \cos(0))}{(1 - \cos(a)\sin(0))^2} =$$

$$= 1 * \frac{(1) * (\sin(a))}{(1)^2} = \sin(a)$$