

$$S. 145/3 \quad \cos(\alpha) = \frac{1}{3}$$

$$\sin(\alpha), \tan(\alpha), \sin(90^\circ - \alpha), \cos(90^\circ - \alpha), \tan(90^\circ - \alpha)$$

$$\sin(90^\circ - \alpha) = \cos(\alpha) = \frac{1}{3}$$

$$(\sin(\alpha))^2 + (\cos(\alpha))^2 = 1$$

$$(\sin(\alpha))^2 = 1 - (\cos(\alpha))^2$$

$$\sqrt{x^2} = |x|$$

$$|\sin(\alpha)| = \sqrt{1 - (\cos(\alpha))^2}$$

Da $\sin(\alpha) \geq 0$ für $0 \leq \alpha \leq 90^\circ$, ist

$$|\sin(\alpha)| = \sin(\alpha)$$

$$\sin(\alpha) = \sqrt{1 - \left(\frac{1}{3}\right)^2} = \sqrt{\frac{8}{9}} = \frac{\sqrt{4 \cdot 2}}{3} = \frac{2\sqrt{2}}{3} = \frac{2}{3}\sqrt{2}$$

$$\tan(\alpha) = \frac{\sin(\alpha)}{\cos(\alpha)} = \frac{\frac{2}{3}\sqrt{2}}{\frac{1}{3}} = 2\sqrt{2}$$

$$\cos(90^\circ - \alpha) = \sin(\alpha) = \frac{2}{3}\sqrt{2}$$

$$\tan(90^\circ - \alpha) = \frac{\sin(90^\circ - \alpha)}{\cos(90^\circ - \alpha)} = \frac{\cos(\alpha)}{\sin(\alpha)} = \frac{1}{\tan(\alpha)}$$

$$= \frac{1}{2\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{4} = \frac{1}{4}\sqrt{2}$$