

1)

$$1 + \sin \alpha = \sin 90^\circ + \sin \alpha = 2 \sin \alpha \frac{90^\circ + \alpha}{2} \cos \frac{90^\circ - \alpha}{2}.$$

2)

$$1 - \sin \alpha = 2 \cos \frac{90^\circ + \alpha}{2} \sin \frac{90^\circ - \alpha}{2}.$$

3)

$$1 + 2 \sin \alpha = 2\left(\frac{1}{2} + \sin \alpha\right) = 2(\sin 30^\circ + \sin \alpha) = 4 \sin \frac{30^\circ + \alpha}{2} \cos \frac{30^\circ - \alpha}{2}.$$

4)

$$= 1 - 2 \sin \alpha = 4 \cos \frac{30^\circ + \alpha}{2} \sin \frac{30^\circ - \alpha}{2}.$$

5)

$$= 1 + 2 \cos \alpha = 2\left(\frac{1}{2} + \cos \alpha\right) = 2(\cos 60^\circ + \cos \alpha) = 4 \cos \frac{60^\circ + \alpha}{2} \cos \frac{60^\circ - \alpha}{2}.$$

6)

$$1 - 2 \cos \alpha = -4 \sin \frac{60^\circ + \alpha}{2} \sin \frac{60^\circ - \alpha}{2}.$$

(Harsányi Zoltán, Eger.)

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