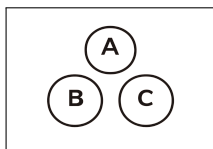


36 Formulas and Identities

Product to Sum

D



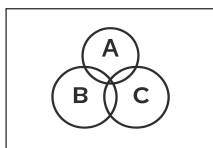
$$\alpha = 75^\circ$$

$$\beta = 15^\circ$$

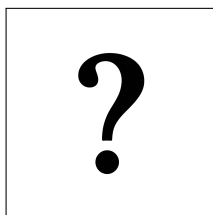
$$\cos(75^\circ) \sin(15^\circ) = 1/2[\sin(90^\circ) - \sin(60^\circ)]$$

$$\cos(75^\circ) \sin(15^\circ) = 1/2[1 - \sqrt{3}/2]$$

$$\cos(75^\circ) \sin(15^\circ) = (2 - \sqrt{3})/4$$



$$\cos(\alpha) \sin(\beta) = 1/2[\sin(\alpha + \beta) - \sin(\alpha - \beta)]$$



$$\alpha = 105^\circ$$

$$\beta = 15^\circ$$

$$\cos(\alpha) \sin(\beta) = ?$$

36 Formulas and Identities

Product to Sum

D



$$\alpha = 105^\circ$$

$$\beta = 15^\circ$$

$$\cos(\alpha) \sin(\beta) = 1/2[\sin(\alpha + \beta) - \sin(\alpha - \beta)]$$

$$\cos(105^\circ) \sin(15^\circ) = 1/2[\sin(120^\circ) - \sin(90^\circ)]$$

$$\cos(105^\circ) \sin(15^\circ) = 1/2[(\sqrt{3}/2) - 1]$$

$$\cos(105^\circ) \sin(15^\circ) = 1/2 \times [(\sqrt{3} - 2)/2]$$

$$\cos(105^\circ) \sin(15^\circ) = (\sqrt{3} - 2)/4$$