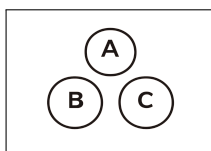


36 Formulas and Identities

Product to Sum

B



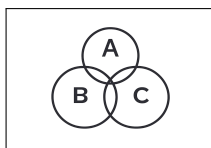
$$\alpha = 75^\circ$$

$$\beta = 15^\circ$$

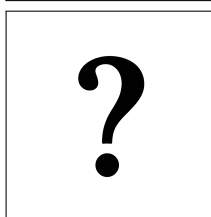
$$\cos(75^\circ) \cos(15^\circ) = 1/2[\cos(60^\circ) + \cos(90^\circ)]$$

$$\cos(75^\circ) \cos(15^\circ) = 1/2[1/2 + 0]$$

$$\cos(75^\circ) \cos(15^\circ) = 1/4$$



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



$$\alpha = 105^\circ$$

$$\beta = 15^\circ$$

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

36 Formulas and Identities

Product to Sum

B



$$\alpha = 105^\circ$$

$$\beta = 15^\circ$$

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

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

$$\cos(105^\circ) \cos(15^\circ) = 1/2[0 + (-1/2)]$$

$$\cos(105^\circ) \cos(15^\circ) = 1/2 \times -1/2$$

$$\cos(105^\circ) \cos(15^\circ) = -1/4$$