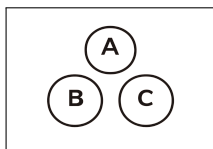


36 Formulas and Identities

Product to Sum

A



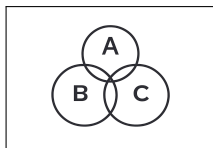
$$\alpha = 75^\circ$$

$$\beta = 15^\circ$$

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

$$\sin(75^\circ) \sin(15^\circ) = 1/2[1/2 - 0]$$

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

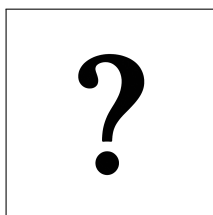


$$\sin(\alpha) \sin(\beta) = 1/2[\cos(\alpha - \beta) - \cos(\alpha + \beta)]$$

$$\alpha = 105^\circ$$

$$\beta = 15^\circ$$

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



36 Formulas and Identities

Product to Sum

A



$$\alpha = 105^\circ$$

$$\beta = 15^\circ$$

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

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

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

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

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