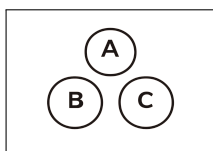


35 Formulas and Identities

Sum and Difference

B



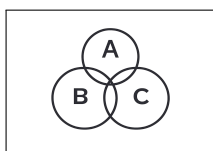
$$\alpha = 45^\circ$$

$$\beta = 30^\circ$$

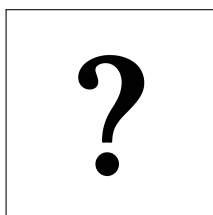
$$\theta = 15^\circ$$

$$\cos(45^\circ - 30^\circ) = \cos(45^\circ) \cos(30^\circ) + \sin(45^\circ) \sin(30^\circ)$$

$$\cos(15^\circ) = (\sqrt{6} + \sqrt{2})/4$$



$$\cos(\alpha \pm \beta) = \cos(\alpha) \cos(\beta) \mp \sin(\alpha) \sin(\beta)$$



$$\alpha = 120^\circ$$

$$\beta = 45^\circ$$

$$\theta = 75^\circ$$

$$\cos(120^\circ - 45^\circ) = ?$$

35 Formulas and Identities

Sum and Difference

B



$$\alpha = 120^\circ$$

$$\beta = 45^\circ$$

$$\theta = 75^\circ$$

$$\cos(120^\circ - 45^\circ) = \cos(120^\circ) \cos(45^\circ) + \sin(120^\circ) \sin(45^\circ)$$

$$\cos(120^\circ - 45^\circ) = (-1/2)(\sqrt{2}/2) + (\sqrt{3}/2)(\sqrt{2}/2)$$

$$\cos(120^\circ - 45^\circ) = -\sqrt{2}/4 + \sqrt{6}/4$$

$$\cos(75^\circ) = (\sqrt{6} - \sqrt{2})/4$$