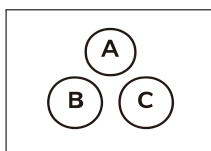


34 Formulas and Identities

Half Angle Formulas

B



$$\theta = 240^\circ$$

$$\cos(\theta/2) = \pm\sqrt{(1 + \cos(\theta))/2}$$

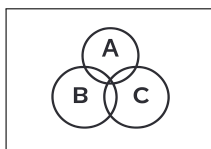
$$\cos(120^\circ) = \pm\sqrt{(1 + (-1/2))/2}$$

$$\cos(120^\circ) = \pm\sqrt{(1/2)/2}$$

$$\cos(120^\circ) = \pm\sqrt{1/4}$$

$$\cos(120^\circ) = \pm 1/2$$

$$\cos(120^\circ) = -1/2$$



$$\cos(\theta/2) = \pm\sqrt{(1 + \cos(\theta))/2}$$



$$\theta = 120^\circ$$

$$\cos(\theta/2) = ?$$

34 Formulas and Identities

Half Angle Formulas

B



$$\theta = 120^\circ$$

$$\cos(\theta/2) = \pm \sqrt{(1 + \cos(\theta))/2}$$

$$\cos(60^\circ) = \pm \sqrt{(1 + \cos(120^\circ))/2}$$

$$\cos(60^\circ) = \pm \sqrt{(1 + (-1/2))/2}$$

$$\cos(60^\circ) = \pm \sqrt{(1/2)/2}$$

$$\cos(60^\circ) = \pm \sqrt{1/4}$$

$$\cos(60^\circ) = \pm 1/2$$

$$\cos(60^\circ) = 1/2$$