

Angle Sum/Difference Identities

Use the angle sum identity to find the exact value of each.

1) $\cos 105^\circ$

2) $\sin 195^\circ$

3) $\cos 195^\circ$

4) $\cos 165^\circ$

5) $\cos 285^\circ$

6) $\cos 255^\circ$

7) $\sin 105^\circ$

8) $\sin 285^\circ$

9) $\cos 75^\circ$

10) $\sin 255^\circ$

Use the angle difference identity to find the exact value of each.

11) $\cos 75^\circ$

12) $\cos -15^\circ$

13) $\tan 75^\circ$

14) $\cos 15^\circ$

15) $\tan -105^\circ$

16) $\sin 105^\circ$

17) $\tan 15^\circ$

18) $\sin 15^\circ$

19) $\tan -15^\circ$

20) $\sin -75^\circ$

Use the angle sum or difference identity to find the exact value of each.

21) $\sin -105^\circ$

22) $\cos 195^\circ$

23) $\cos \frac{7\pi}{12}$

24) $\tan \frac{13\pi}{12}$

25) $\sin \frac{\pi}{12}$

26) $\cos -\frac{7\pi}{12}$

Angle Sum/Difference Identities

Use the angle sum identity to find the exact value of each.

1) $\cos 105^\circ$

$$\frac{\sqrt{2} - \sqrt{6}}{4}$$

2) $\sin 195^\circ$

$$\frac{\sqrt{2} - \sqrt{6}}{4}$$

3) $\cos 195^\circ$

$$\frac{-\sqrt{6} - \sqrt{2}}{4}$$

4) $\cos 165^\circ$

$$\frac{-\sqrt{6} - \sqrt{2}}{4}$$

5) $\cos 285^\circ$

$$\frac{\sqrt{6} - \sqrt{2}}{4}$$

6) $\cos 255^\circ$

$$\frac{\sqrt{2} - \sqrt{6}}{4}$$

7) $\sin 105^\circ$

$$\frac{\sqrt{6} + \sqrt{2}}{4}$$

8) $\sin 285^\circ$

$$\frac{-\sqrt{6} - \sqrt{2}}{4}$$

9) $\cos 75^\circ$

$$\frac{\sqrt{6} - \sqrt{2}}{4}$$

10) $\sin 255^\circ$

$$\frac{-\sqrt{6} - \sqrt{2}}{4}$$

Use the angle difference identity to find the exact value of each.

11) $\cos 75^\circ$

$$\frac{\sqrt{6} - \sqrt{2}}{4}$$

12) $\cos -15^\circ$

$$\frac{\sqrt{6} + \sqrt{2}}{4}$$

13) $\tan 75^\circ$

$$2 + \sqrt{3}$$

14) $\cos 15^\circ$

$$\frac{\sqrt{6} + \sqrt{2}}{4}$$

15) $\tan -105^\circ$

$$2 + \sqrt{3}$$

16) $\sin 105^\circ$

$$\frac{\sqrt{6} + \sqrt{2}}{4}$$

17) $\tan 15^\circ$

$$2 - \sqrt{3}$$

18) $\sin 15^\circ$

$$\frac{\sqrt{6} - \sqrt{2}}{4}$$

19) $\tan -15^\circ$

$$\sqrt{3} - 2$$

20) $\sin -75^\circ$

$$\frac{-\sqrt{6} - \sqrt{2}}{4}$$

Use the angle sum or difference identity to find the exact value of each.

21) $\sin -105^\circ$

$$\frac{-\sqrt{6} - \sqrt{2}}{4}$$

22) $\cos 195^\circ$

$$\frac{-\sqrt{6} - \sqrt{2}}{4}$$

23) $\cos \frac{7\pi}{12}$

$$\frac{\sqrt{2} - \sqrt{6}}{4}$$

24) $\tan \frac{13\pi}{12}$

$$2 - \sqrt{3}$$

25) $\sin \frac{\pi}{12}$

$$\frac{\sqrt{6} - \sqrt{2}}{4}$$

26) $\cos -\frac{7\pi}{12}$

$$\frac{\sqrt{2} - \sqrt{6}}{4}$$