

## Angle Sum/Difference Identities

Date \_\_\_\_\_ Period \_\_\_\_\_

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

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