

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) $\cos -\frac{7\pi}{12} = \frac{\sqrt{2} - \sqrt{6}}{4}$