

**Coterminal & Terminal Practice**

Date \_\_\_\_\_

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**Find a positive and a negative coterminal angle for each given angle.**

1)  $-295^\circ$

2)  $-35^\circ$

3)  $-83^\circ$

4)  $75^\circ$

5)  $-115^\circ$

6)  $-\frac{128\pi}{45}$

7)  $\frac{23\pi}{36}$

8)  $\frac{3\pi}{4}$

9)  $-\frac{88\pi}{45}$

10)  $\frac{8\pi}{9}$

**State if the given angles are coterminal.**

11)  $\frac{\pi}{12}, -\frac{23\pi}{12}$

12)  $\frac{29\pi}{36}, -\frac{31\pi}{36}$

13)  $\frac{5\pi}{9}, -\frac{22\pi}{9}$

**Find the terminal point of each angle.**

14)  $150^\circ$

15)  $225^\circ$

16)  $240^\circ$

17)  $210^\circ$

18)  $315^\circ$

19)  $\frac{2\pi}{3}$

20)  $\frac{21\pi}{4}$

21)  $\frac{18\pi}{6}$

22)  $\frac{35\pi}{3}$

23)  $\frac{11\pi}{4}$

**Find the exact value of each trigonometric function.**

24)  $\sin -\frac{7\pi}{3}$

25)  $\cos \frac{13\pi}{3}$

$$26) \sin -945^\circ$$

$$27) \sin -\frac{13\pi}{4}$$

$$28) \sin \frac{9\pi}{4}$$

$$29) \cos -\frac{13\pi}{4}$$

$$30) \sin \frac{7\pi}{3}$$

$$31) \cos \frac{16\pi}{3}$$

$$32) \cos -\frac{17\pi}{4}$$

$$33) \sin \frac{16\pi}{3}$$

## Answers to Coterminal & Terminal Practice

1)  $65^\circ$  and  $-655^\circ$

5)  $245^\circ$  and  $-475^\circ$

9)  $\frac{2\pi}{45}$  and  $-\frac{178\pi}{45}$

13) No

17)  $(-\frac{\sqrt{3}}{2}, -\frac{1}{2})$

21)  $(-1, 0)$

25)  $\frac{1}{2}$

29)  $-\frac{\sqrt{2}}{2}$

33)  $-\frac{\sqrt{3}}{2}$

2)  $325^\circ$  and  $-395^\circ$

6)  $\frac{52\pi}{45}$  and  $-\frac{38\pi}{45}$

10)  $\frac{26\pi}{9}$  and  $-\frac{10\pi}{9}$

14)  $(-\frac{\sqrt{3}}{2}, \frac{1}{2})$

18)  $(\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2})$

22)  $(\frac{1}{2}, -\frac{\sqrt{3}}{2})$

26)  $\frac{\sqrt{2}}{2}$

30)  $\frac{\sqrt{3}}{2}$

3)  $277^\circ$  and  $-443^\circ$

7)  $\frac{95\pi}{36}$  and  $-\frac{49\pi}{36}$

11) Yes

15)  $(-\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2})$

19)  $(-\frac{1}{2}, \frac{\sqrt{3}}{2})$

23)  $(-\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2})$

27)  $\frac{\sqrt{2}}{2}$

31)  $-\frac{1}{2}$

4)  $435^\circ$  and  $-285^\circ$

8)  $\frac{11\pi}{4}$  and  $-\frac{5\pi}{4}$

12) No

16)  $(-\frac{1}{2}, -\frac{\sqrt{3}}{2})$

20)  $(-\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2})$

24)  $-\frac{\sqrt{3}}{2}$

28)  $\frac{\sqrt{2}}{2}$

32)  $\frac{\sqrt{2}}{2}$