

1. Convert to Radians.

220°

2. Convert to Degrees.

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

Find both a positive and a negative coterminal angle for each given angle. Give your answer with the same units as the given angle.

3. 2645°

Pos:

Neg:

4. $-\frac{19\pi}{5}$

Pos:

Neg:

5. -978°

Pos:

Neg:

6. $\frac{31\pi}{11}$

Pos:

Neg:

Answers

1. Convert to Radians.

$220^\circ \cdot \frac{\pi}{180^\circ} = \frac{11\pi}{9}$

2. Convert to Degrees.

$\frac{11\pi}{4} \cdot \frac{180^\circ}{\pi} = 495^\circ$

Find both a positive and a negative coterminal angle for each given angle. Give your answer with the same units as the given angle.

3. $2645^\circ \pm 360^\circ$

Pos:

Neg:

... $1565^\circ, 1925^\circ,$
 $2285^\circ, 3005^\circ,$
 $3365^\circ, \dots$

-235°
 -595°
 $-955^\circ, \dots$

Example answers are given. Many others are possible

4. $-\frac{19\pi}{5} \pm 2\pi \rightarrow \pm \frac{10\pi}{5}$

Pos:

Neg:

$\frac{\pi}{5}, \frac{11\pi}{5}, \frac{21\pi}{5}, \dots$... $-\frac{39\pi}{10}, -\frac{29\pi}{5}, -\frac{9\pi}{5}$

5. $-978^\circ \pm 360$

Pos:

Neg:

$102^\circ, 462^\circ, 822^\circ, \dots$

$\dots -1338^\circ, -618^\circ, -258^\circ$

6. $\frac{31\pi}{11} \pm 2\pi \rightarrow \pm \frac{22\pi}{11}$

Pos:

Neg:

$\frac{9\pi}{11}, \frac{53\pi}{11}, \frac{75\pi}{11}, \dots$... $-\frac{57\pi}{11}, -\frac{35\pi}{11}, -\frac{13\pi}{11}$