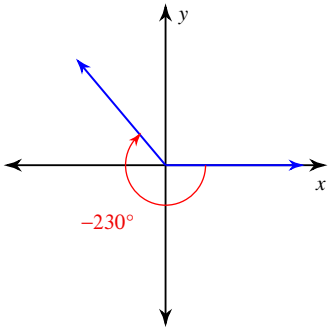
 Name_____

Coterminal Angles and Reference Angles

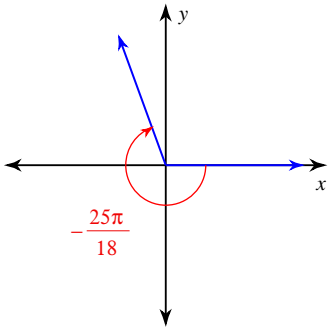
Date_____ Period____

Find the reference angle.

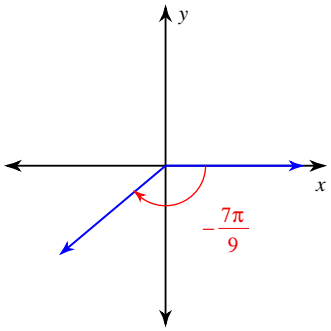
1)



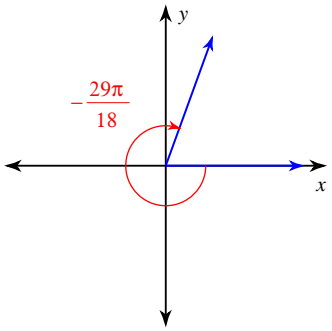
2)



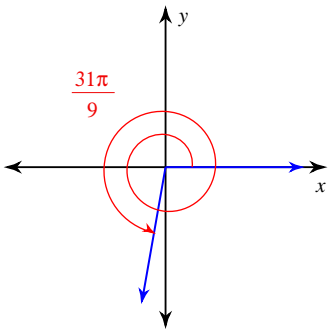
3)



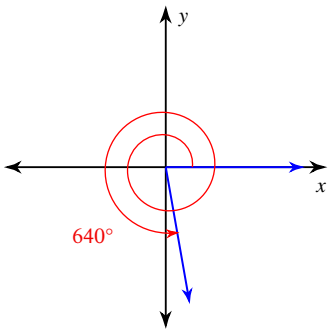
4)



5)



6)



7) $-510°$

8) $-\frac{19\pi}{18}$

9) $-\frac{13\pi}{12}$

10) $-250°$

State if the given angles are coterminal.

11) $185°,\ -545°$

12) $\frac{17\pi}{36},\ \frac{161\pi}{36}$

Find a coterminal angle between 0° and 360°.

13) $-330°$

14) $-435°$

15) $640°$

16) $-442°$

Find a coterminal angle between 0 and 2π for each given angle.

17) $\frac{11\pi}{3}$

18) $-\frac{35\pi}{18}$

19) $\frac{15\pi}{4}$

20) $-\frac{19\pi}{12}$

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

21) $\frac{5\pi}{4}$

22) $\frac{25\pi}{36}$

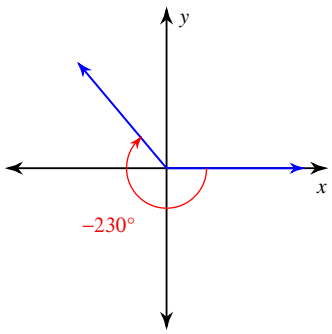
 Name_____

Coterminal Angles and Reference Angles

Date_____ Period____

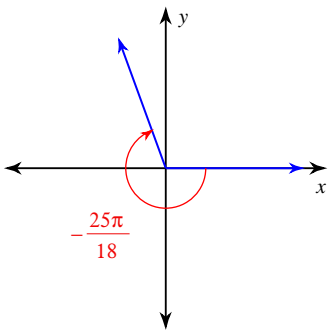
Find the reference angle.

1)



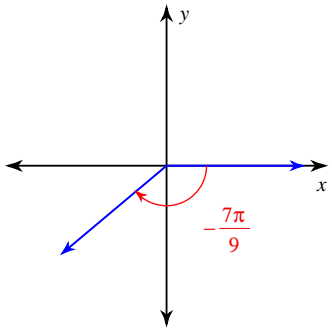
50°

2)



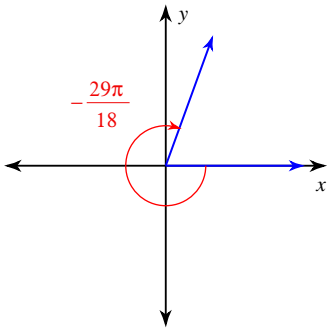
$\frac{7\pi}{18}$

3)



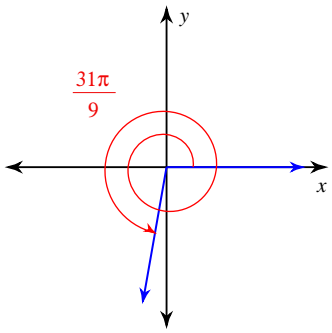
$\frac{2\pi}{9}$

4)



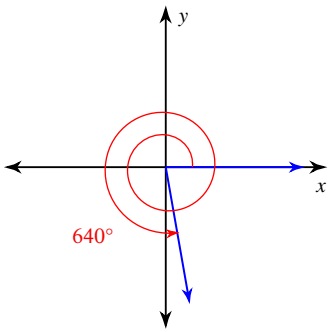
$\frac{7\pi}{18}$

5)



$\frac{4\pi}{9}$

6)



80°

7) $-510°$

$30°$

8) $-\frac{19\pi}{18}$

$\frac{\pi}{18}$

9) $-\frac{13\pi}{12}$

$\frac{\pi}{12}$

10) $-250°$

$70°$

State if the given angles are coterminal.

11) $185°,\ -545°$

No

12) $\frac{17\pi}{36},\ \frac{161\pi}{36}$

Yes

Find a coterminal angle between 0° and 360°.

13) $-330°$

$30°$

14) $-435°$

$285°$

15) $640°$

$280°$

16) $-442°$

$278°$

Find a coterminal angle between 0 and 2π for each given angle.

17) $\frac{11\pi}{3}$

$\frac{5\pi}{3}$

18) $-\frac{35\pi}{18}$

$\frac{\pi}{18}$

19) $\frac{15\pi}{4}$

$\frac{7\pi}{4}$

20) $-\frac{19\pi}{12}$

$\frac{5\pi}{12}$

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

21) $\frac{5\pi}{4}$

$\frac{13\pi}{4}$ and $-\frac{3\pi}{4}$

22) $\frac{25\pi}{36}$

$\frac{97\pi}{36}$ and $-\frac{47\pi}{36}$

Create your own worksheets like this one with **Infinite Algebra 2**. Free trial available at KutaSoftware.com