

1. Find the angle coterminal with $2\pi/3$ in the interval $-2\pi < x < 0$. $\frac{2\pi}{3} - \frac{6\pi}{3} = -\frac{4\pi}{3}$
 $-\frac{4\pi}{3} + \frac{10\pi}{3} = \frac{6\pi}{3}$ $\frac{6\pi}{5} + \frac{10\pi}{5} = \frac{16\pi}{5}$
2. Find the angles coterminal with $-4\pi/5$ in the interval $0 < x < 4\pi$.

3. Convert from degrees to radians:

a. 240° $\frac{4\pi}{3}$

b. -510° $-\frac{17\pi}{6}$

c. $26^\circ 15'$
 $26.25 \cdot \frac{\pi}{180} = \frac{7\pi}{48}$

4. Convert from radians to degrees:

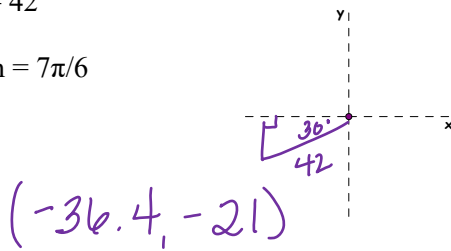
a. $-9\pi/2$ -810°

b. $4\pi/5$ 144°

Draw the rotation and its reference triangle given the rotation and the radius. Find the coordinates of the terminal point, using your calculator.

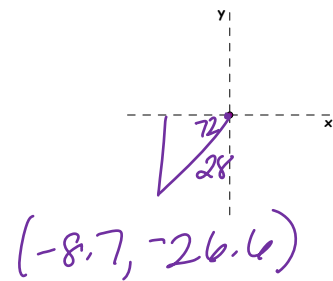
5. Radius = 42

Rotation = $7\pi/6$



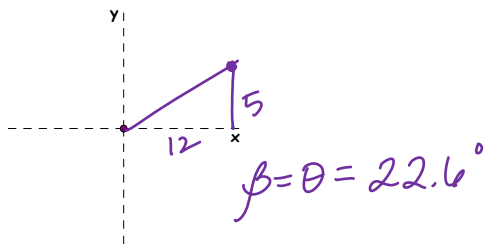
6. Radius = 28

Rotation = $-3\pi/5$



Plot each terminal point. Find the measure of the rotation. Write the trigonometric ratios as fractions.

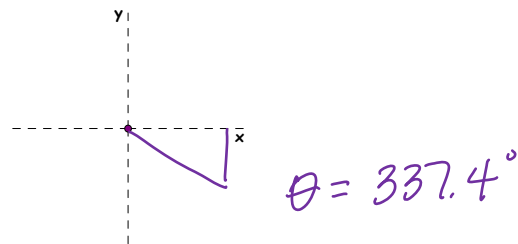
7. P = (12, 5)



Angle in radians = 0.39
 cosine = $\frac{12}{13}$ tangent = $\frac{5}{12}$ secant = $\frac{13}{12}$
 sine = $\frac{5}{13}$

cosecant = $\frac{13}{5}$ cotangent = $\frac{12}{5}$

8. S = (12, -5)



Angle in radians = 5.89
 cosine = $\frac{12}{13}$ tangent = $-\frac{5}{12}$ secant = $\frac{13}{12}$

sine = $-\frac{5}{13}$ cosecant = $-\frac{13}{5}$ cotangent = $-\frac{12}{5}$

Answer true or false.

T 9. An angle whose sine and cosine are both negative is in the third quadrant.

F 10. An angle terminates in Quadrant II and another angle terminates in Quadrant IV, then the two rotations can have equal sines.

T 11. $\cos(\pi/6) > \cos(\pi/3)$ (How can you tell without a calculator?)

Use your calculator to evaluate. Round to four decimal places.

12) $\sin(6\pi/7)$

0.43

13) $\tan .548$

0.61

14) $\sec 57^\circ 25'$

1.87

15) $\csc(-1.434)$

-1.01

16) $\cot 318^\circ$

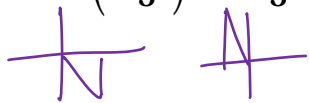
-1.11

Longer adjacent side!

Change mode between problems!

Unit Circle Practice:

17) $\tan\left(-\frac{7\pi}{3}\right) \cdot \sec\frac{2\pi}{3}$



$= -\sqrt{3} \cdot -2$

$= 2\sqrt{3}$

18) $\tan\frac{5\pi}{6} + \sec\frac{5\pi}{6}$



$= -\frac{\sqrt{3}}{3} + \frac{-2\sqrt{3}}{3}$

$= -\sqrt{3}$

19) $\cos\pi \cos\frac{\pi}{4} - \sin\pi \sin\frac{\pi}{4}$

$-1 \cdot \frac{\sqrt{2}}{2} - 0 \cdot \frac{\sqrt{2}}{2}$

$= -\frac{\sqrt{2}}{2}$

20) $\cos^2\frac{\pi}{6} + \sin^2\frac{\pi}{3}$

$\left(\frac{\sqrt{3}}{2}\right)^2 + \left(\frac{\sqrt{3}}{2}\right)^2$

$\frac{3}{4} + \frac{3}{4}$

$= \frac{3}{2}$

21:) $\cos^2\frac{2\pi}{3} + \sin^2\frac{2\pi}{3}$

$= 1$

22:) $\cos^2\left(-\frac{\pi}{2}\right) + \sin^2\left(-\frac{\pi}{2}\right)$

$= 1$