

6.4 Homework

1. (a-g) Convert from radians to degrees without a calculator

a. $\frac{\pi}{6}$

30°

b. $\frac{2\pi}{3}$

120°

c. $\frac{5\pi}{4}$

225°

d. $\frac{7\pi}{3}$

420°

e. $\frac{5\pi}{4}$

45°

f. $\frac{5\pi}{8}$

$5 \cdot \frac{45^\circ}{8} = \frac{225^\circ}{2}$

g. $\frac{22\pi}{4}$

$22 \cdot 45^\circ = 990^\circ$

2. (a-g) Convert from degrees to radians without a calculator

a. 315°

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

b. 240°

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

c. 150°

$\frac{5\pi}{6}$

d. 135°

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

e. 540°

$9 \cdot 60^\circ = 9\pi = 3\pi$

f. 720°

$2 \cdot 360^\circ = 4\pi$

g. 42°

$42^\circ \cdot \frac{\pi}{180^\circ} = \frac{7\pi}{30}$

(3-10) Find the exact value

3. $\cos \frac{5\pi}{6}$

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

4. $\sin\left(-\frac{\pi}{3}\right)$

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

5. $\tan \frac{3\pi}{4}$

-1

6. $\tan\left(-\frac{5\pi}{6}\right)$

$\frac{-\frac{1}{2}}{-\frac{\sqrt{3}}{2}} = \frac{\sqrt{3}}{3}$

7. $\csc \frac{2\pi}{3}$

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

8. $\cos \frac{\pi}{2}$

$= 0$

9. $\cot(-\pi)$

$(-1, 0)$
UNDEF

10. $\sin \frac{\pi}{2}$

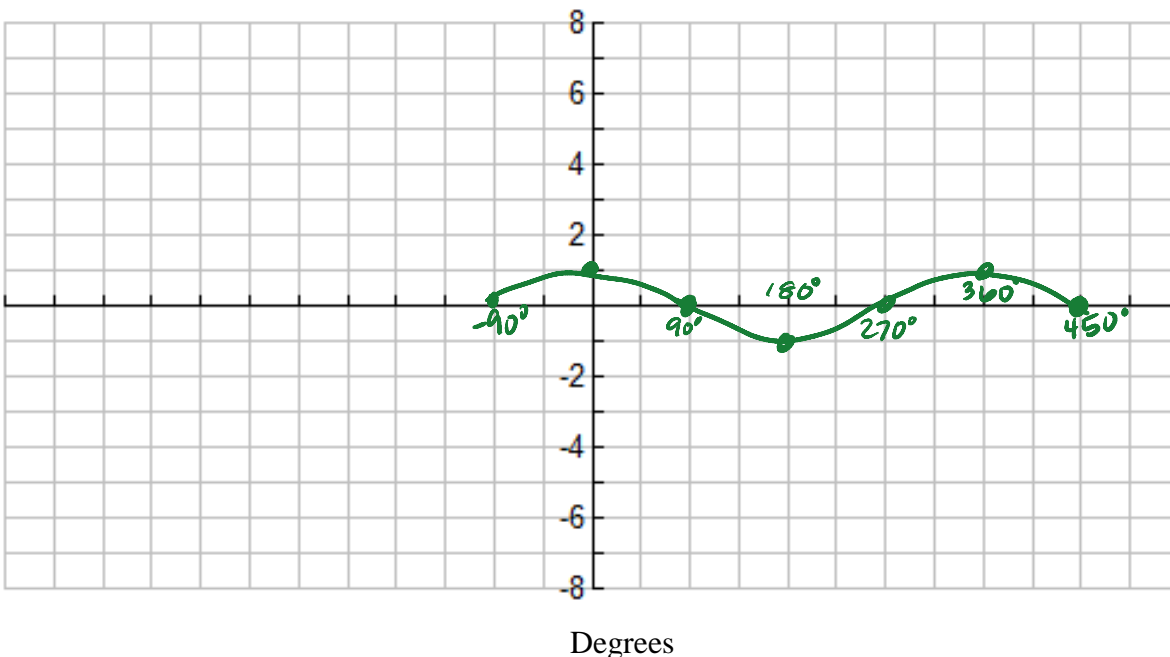
$= 1$

11. Find all possible value of θ , from $-2\pi < \theta < 4\pi$ that are coterminal with $\frac{3\pi}{7}$

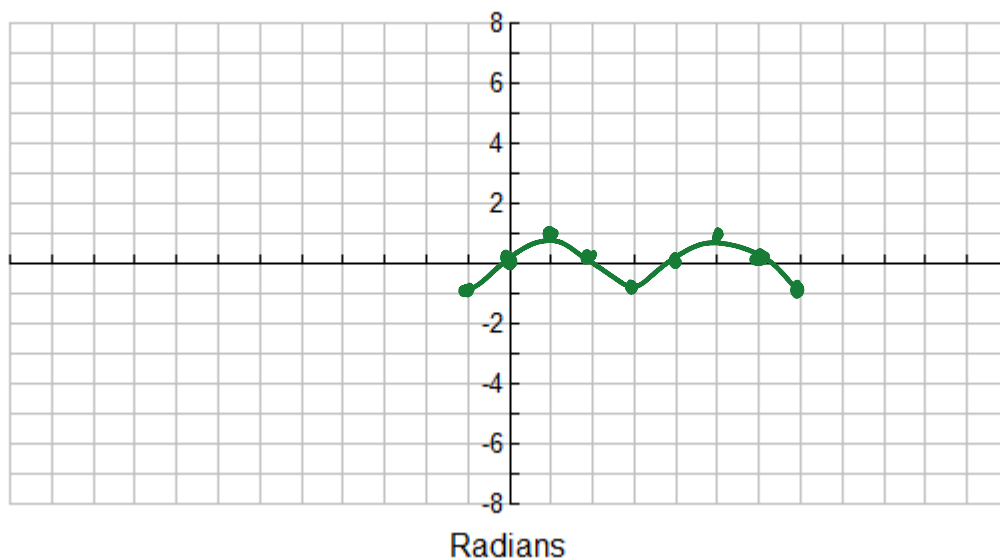
$$\frac{3\pi}{7} + \frac{14\pi}{7} = \frac{17\pi}{7}$$

$$\frac{3\pi}{7} - \frac{14\pi}{7} = \frac{-11\pi}{7}$$

12. Graph $y = \cos \theta$ from -90° to 450° .

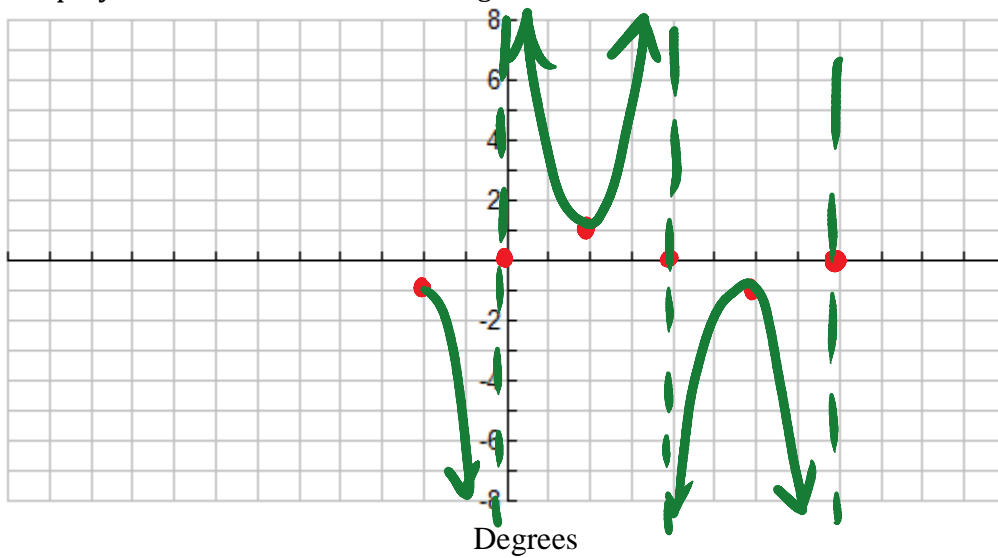


13. Graph $y = \sin \theta$ from $[-\frac{\pi}{2}, \frac{7\pi}{2}]$.

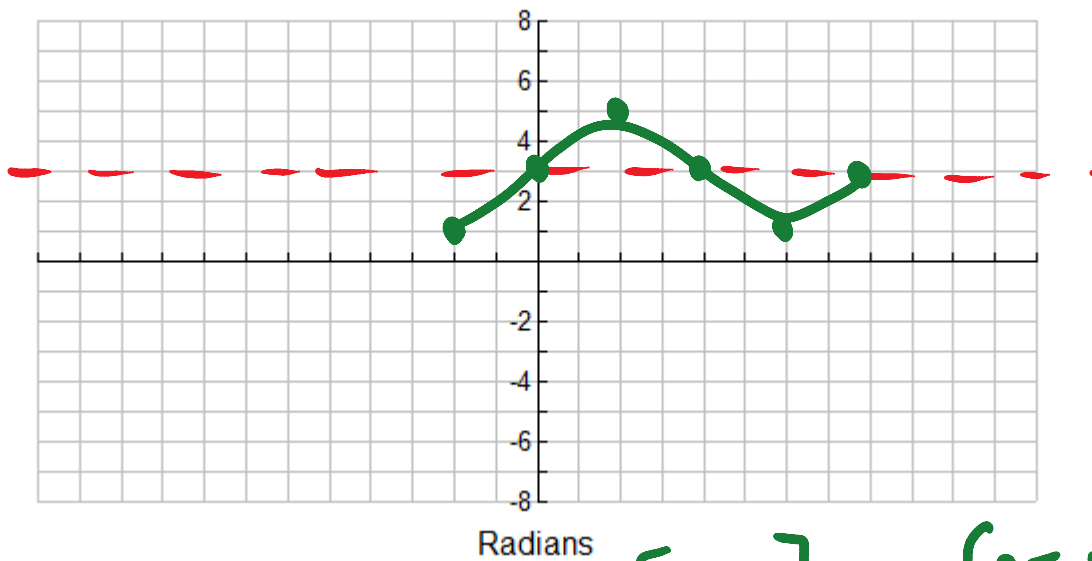


Each tick mark = $\frac{\pi}{2}$

14. Graph $y = \csc \theta$ from -90° to 360° degrees.



15. Graph $y = 2\sin \theta + 3$ from $[-\frac{\pi}{2}, 2\pi]$.



16. Graph $y = 3\tan \theta$ from $[0, 4\pi]$.

