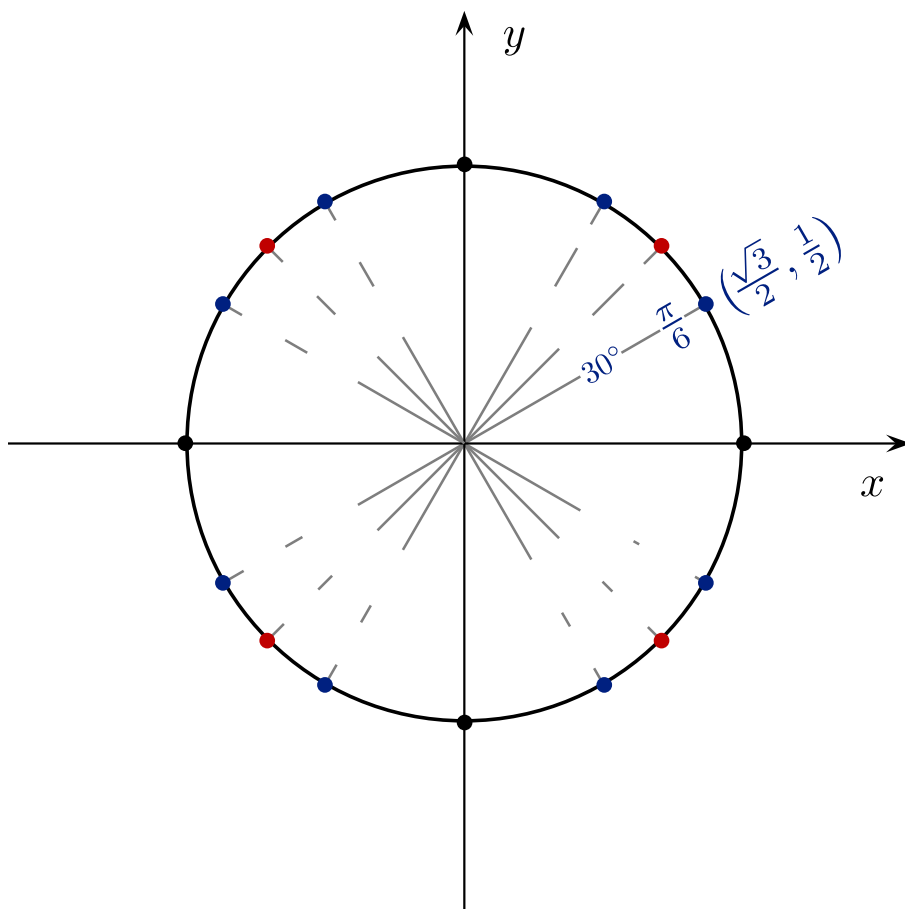


WORKSHEET: REVIEW OF TRIGONOMETRY

1. Unit Circle Definition



(a) $\sin(4\pi/3) =$

(b) $\cos(3\pi/4) =$

(c) $\tan(11\pi/6) =$

What is a radian?

2. Right-triangle Definition

3. **Familiar Graphs** Use the previous work to construct and confirm the graphs of $f(\theta) = \sin(\theta)$, $f(\theta) = \cos(\theta)$, $f(\theta) = \tan(\theta)$.

4. Find *all* solutions to the equations below. Show your reasoning.

(a) $\cos x = 1$

(c) $\tan x = 0$

(b) $\sin x = 1$

(d) $\sin x = 1/2$ (Find all solutions in $[0, 2\pi]$.)

5. Convert $2\pi/3$ radians and $5\pi/7$ radians to degrees.

6. Convert 20 degrees to radians.

7. Without a calculator and without going back to the first pages (!!) evaluate:

(a) $\sin\left(\frac{2\pi}{3}\right)$

(b) $\cos\left(\frac{5\pi}{4}\right)$

(c) $\tan\left(\frac{-\pi}{4}\right)$

8. A wooden ramp is to be built with one end on the ground and the other end at the top of a short staircase. If the top of the staircase is 4 ft from the ground and the angle between the ground and the ramp is to be 10° , how long does the ramp need to be?

9. Find $\cos \theta$ assuming that $\sin \theta = 2/7$ and θ is in the first quadrant.