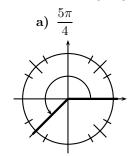
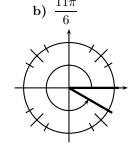
MATH 30 - Precalculus. Homework 7. Due We. 04/03/2024. Professor Luis Fernández

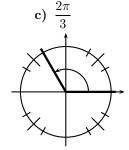
SOLUTION

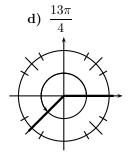
DO NOT write your answers here, except the graphs. Do it in other sheets and **show all your work**. STAPLE this sheet to your other sheets.

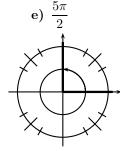
1. Draw the following angles in standard position in the circles provided.

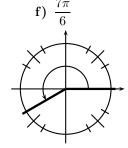


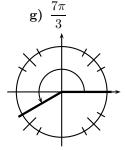


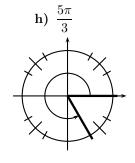




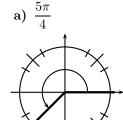


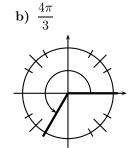


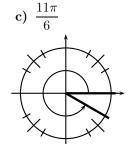


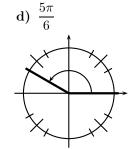


2. Write, in the space provided, the value IN RADIANS of the angles given in the following pictures.









3. Find an angle (in degrees) between 0° and 360° that is coterminal with the following angles:

a) 525°

b) 1025°

c) -540°

Solution:

- a) 165°
- **b**) 305°
- c) 180°

4. Find an angle (in radians) between 0 and 2π that is coterminal with the following angles:

a) 9π

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

Solution:

- a) π b) $\frac{3\pi}{2}$ c) $\frac{7\pi}{4}$ d) $\frac{\pi}{2}$

5. Find the reference angle of the following angles (in degrees).

a) 125°

b) 247°

c) 312°

d) -120°

Solution:

- a) 55°
- c) 48°
- **d**) 60°
- 6. Find the reference angle of the following angles (in degrees).
 - a) $\frac{5\pi}{6}$ Solution:

- a) $\frac{\pi}{6}$ b) $\frac{\pi}{4}$ c) $\frac{\pi}{3}$ d) $\frac{\pi}{6}$

b) 67°

- 7. Convert from radians to degrees.

- Solution: a) $\frac{5\pi}{6} = 150^{\circ}$
- **b)** $\frac{7\pi}{4} = 315^{\circ}$
- c) $\frac{4\pi}{3} = 240^{\circ}$ d) $-\frac{\pi}{6} = -30^{\circ}$
- 8. Convert from degrees to radians.

- Solution: a) $120^{\circ} = \frac{2\pi}{3}$

- **b)** $270^{\circ} = \frac{3\pi}{2}$ **c)** $210^{\circ} = \frac{7\pi}{6}$ **d)** $-120^{\circ} = -\frac{2\pi}{3}$
- 9. Write the angles and the values of sine and cosine for the special angles between 0° and 90° (angles in degrees).

Angle:	0°	30°	45°	60°	90°
$\sin A$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$\cos A$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0

10. Write the angles and the values of sine and cosine for the special angles between 0 and $\frac{\pi}{2}$ (angles in radians).

Angle:	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$
$\sin A$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$\cos A$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0