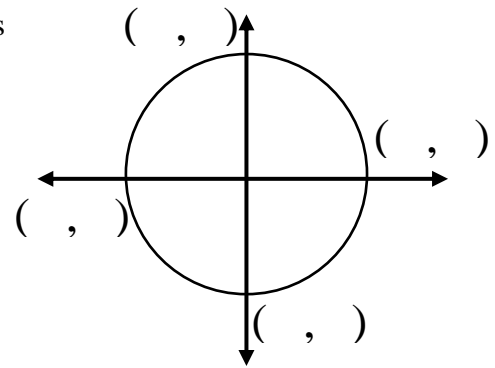


WARM-UP: Label the degrees and coordinates on the axes of this unit circle, then find the solutions for a-k.

$\sin \theta = \underline{\hspace{1cm}}$ $\cos \theta = \underline{\hspace{1cm}}$ $\tan \theta = \underline{\hspace{1cm}}$



definition **ratio** **solution**

a) $\tan 180^\circ = \frac{y}{x} = \frac{0}{-1} = \square$

b) $\tan 90^\circ =$

c) $\sin 0^\circ =$

d) $\cos 0^\circ =$

e) $\sec 180^\circ =$

f) $\csc 0^\circ =$

g) $\cos 90^\circ =$

h) $\sin 270^\circ =$

i) $\sec 270^\circ =$

j) $\cot 90^\circ =$

k) $\csc 90^\circ =$

CHECK ANSWERS a-k			
0	0	0	0
-1	-1	1	1
undefined			
undefined			
undefined			

6.3 PART 2 #13-24, 52-56, 58,60,62

#13-24 → NO calculator, sketch (include all 4 parts listed below)

#52-56 → sketch diagrams, NO calculator except for #56part2

#58,60 → Calculator OK, use area formula and solve

#62 → NO calculator, sketch diagram

CHECK #13-24 (in random order)

TRIG DEFINITION	QUAD	REF ANGLE	SOLUTION
$\frac{x}{y} \frac{x}{y}$	I	30 30 30	$-\frac{2\sqrt{3}}{3} \quad -\frac{\sqrt{3}}{3}$
$\frac{x}{r} \frac{x}{r} \frac{x}{r}$	II II	30 30 30	$-\frac{\sqrt{3}}{2} \quad -\frac{\sqrt{3}}{2} \quad -\frac{\sqrt{3}}{2}$
$\frac{y}{r} \frac{y}{r}$	III III III III	60 60 60	$-2 \quad -\frac{1}{2} \quad \frac{1}{2} \quad 1$
$\frac{r}{x} \frac{r}{y} \frac{r}{y}$	IV IV IV IV	60 60	$\frac{\sqrt{3}}{3} \quad \frac{\sqrt{3}}{3} \quad \sqrt{3}$
$\frac{y}{x} \frac{y}{x}$	boundary line	none	

EXAMPLE for #13-24 → Solve: $\cos 135^\circ$

$\cos 135^\circ = \frac{x}{r}$ Sketch:

Quad II

Reference angle:
 $180 - 135 = 45^\circ$

Solution:

$\cos 135^\circ = -\frac{\sqrt{2}}{2}$

REMINDERS:

- Find coterminal angle so $0^\circ \leq \theta < 360^\circ$
- Sketch angle in standard position;
- Form right triangle with x-axis only;
- Label reference angle closest to origin;
- Label sides using special triangle ratios;
- Use negatives for x & y when appropriate;
- R is always positive.

CHECK #52-56, 58, 60, 62 (in random order)

4 19.1 $\frac{169\sqrt{3}}{4} \approx 73.18$ $\sin \frac{\pi^2}{9} \approx 0.8897$ $-\sqrt{17}$ $-\sqrt{17}$ $-\frac{7}{2}$ $-\frac{1}{4}$ $\frac{3}{4}$ $\sqrt{3}$ $4\sqrt{6}$

$-\frac{4\sqrt{17}}{17}$ $-\frac{\sqrt{17}}{17}$ $-\frac{\sqrt{17}}{17}$ $-\frac{\sqrt{17}}{4}$ $-\frac{3\sqrt{5}}{2}$ $-\frac{2\sqrt{5}}{15}$ $\frac{3\sqrt{5}}{7}$ $\frac{7\sqrt{5}}{15}$ $\frac{\sqrt{3}}{2}$ $\frac{\sqrt{17}}{4}$ $\frac{4\sqrt{17}}{17}$