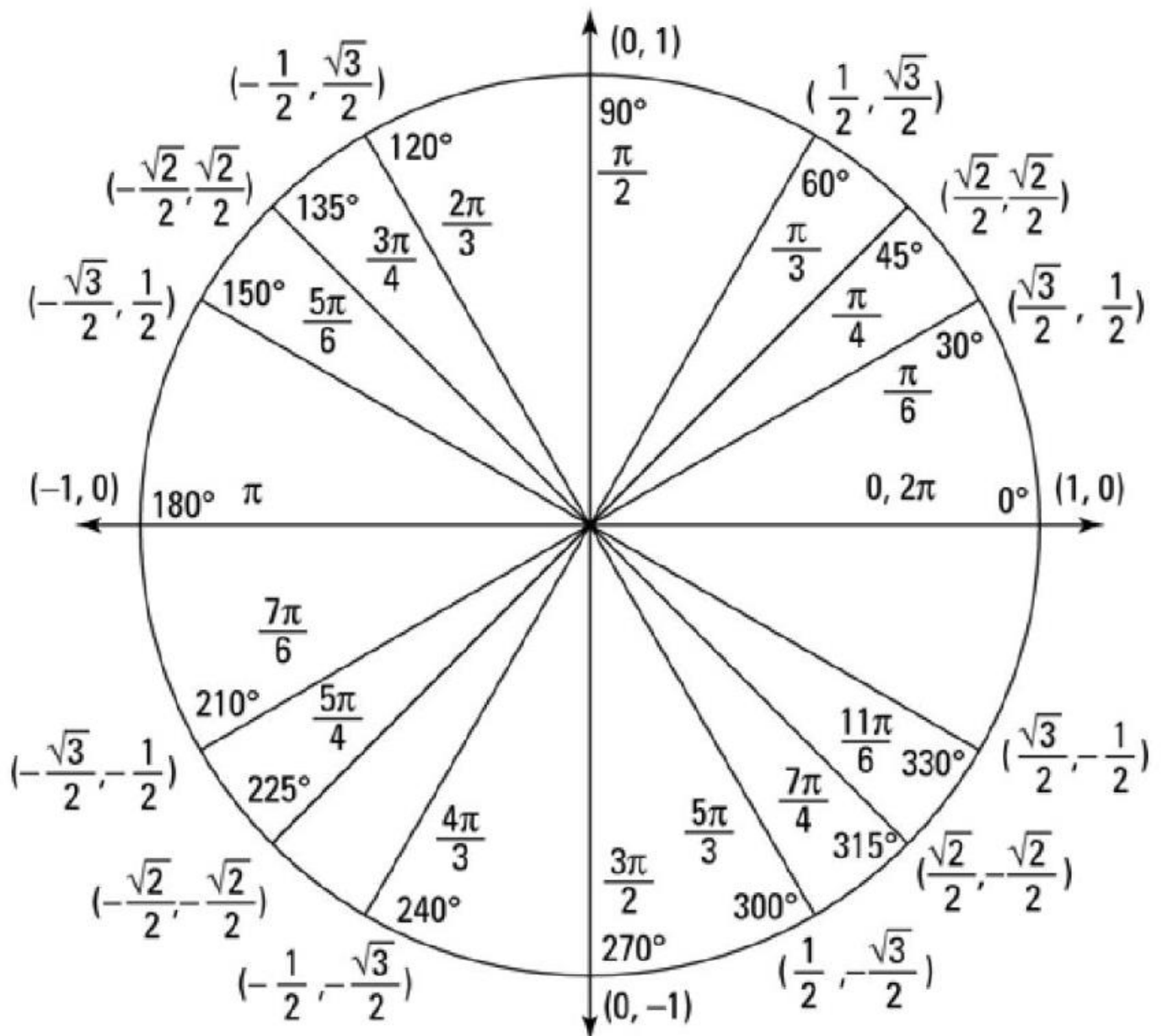


Alg 2/Trig IB 4.5-4.7 Quiz Review Key

**** Remember, the blank unit circle will be given to you for your convenience only. It will NOT be graded. It must be turned in with part 1 of your test, no matter what you may have written on it, to receive credit for part 1. ****



Algebra Trig IB 4.5-4.7 QUIZ REVIEW KEY

PART 1 → (NO CALCULATOR on QUIZ)

★ For #s 1-3 you MUST label the units/intervals on your x and y axis to get credit!!

State the period, amp, shifts, reflections, ^{and} asymptotes. Graph at least 1 full period.

1.) $f(x) = -\cos \frac{x}{5}$

• Period: $\frac{2\pi}{b} = \text{period} \rightarrow b = \frac{a}{5}$

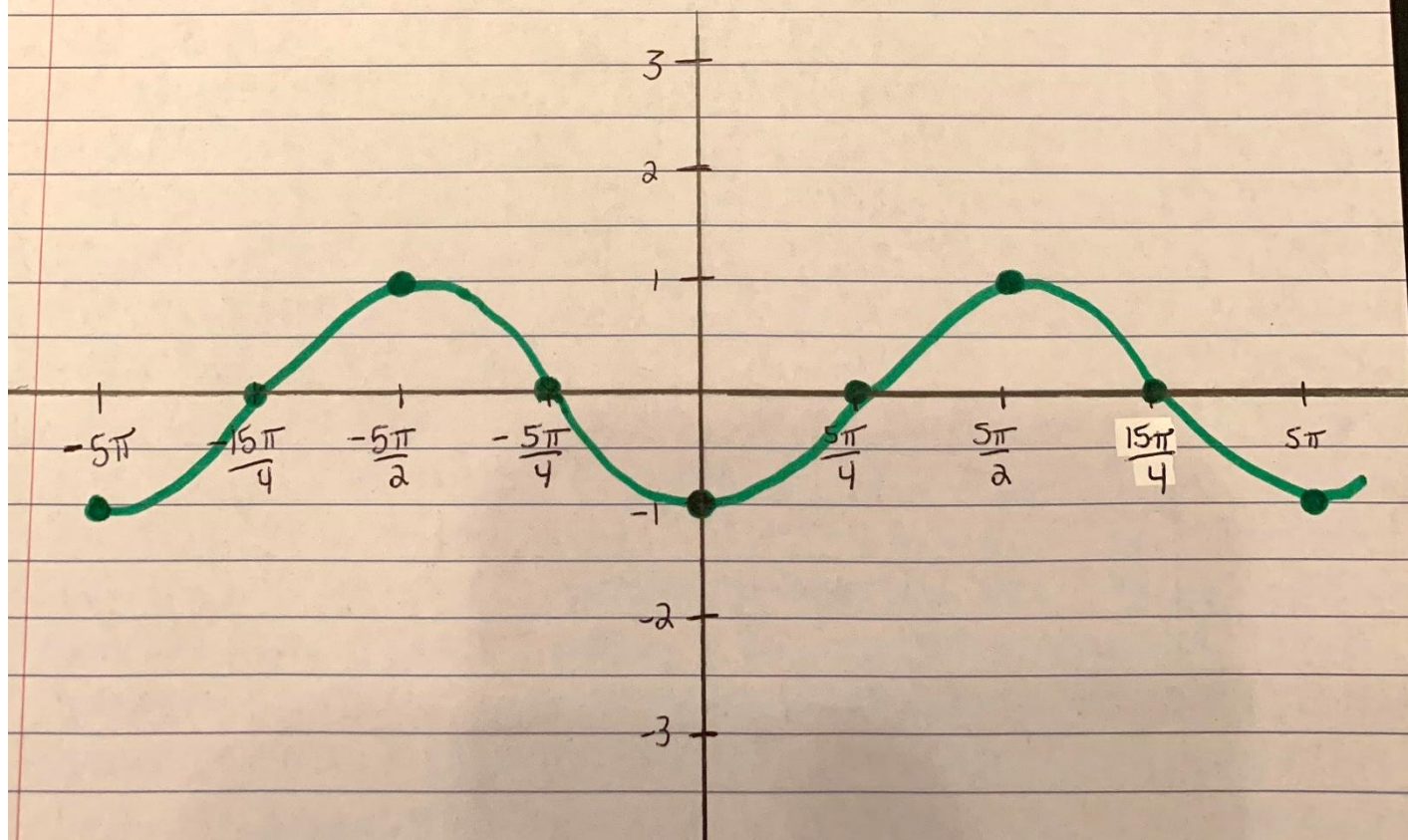
$\frac{2\pi}{a/5} = \text{period} \rightarrow \frac{2\pi \cdot 5}{1 \cdot a} = \frac{10\pi}{a} = \boxed{5\pi \rightarrow \text{period}}$

↳ Split 5π into 4 equal segments: $5\pi \div 4 = \frac{5\pi}{4}$,
so, 4 equal segments are $0, \frac{5\pi}{4}, \frac{5\pi}{2}, \frac{15\pi}{4}, 5\pi$

• Amp: $a = 1$

• Shifts: NONE

• Reflection: over the x axis



2.) $g(x) = 2 \csc\left(x - \frac{\pi}{a}\right) - 1$

• Period: 2π (4 equal segments: $0, \pi/a, \pi, 3\pi/a, 2\pi$)

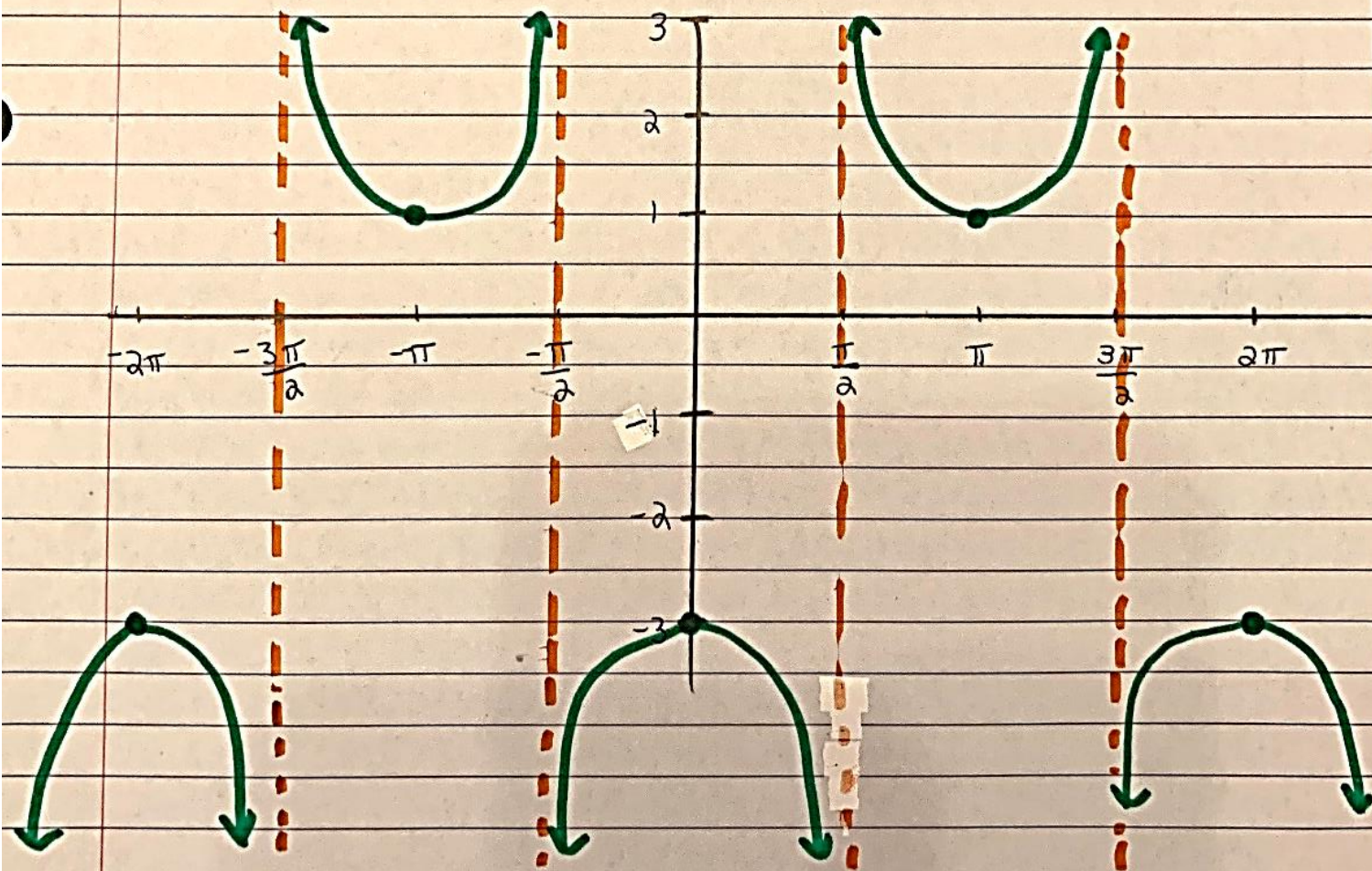
• Amp: $a = 2$

• Shifts:

★ π/a units right

★ 1 unit down

• Reflection: NONE



3.) $K(x) = \tan \frac{6}{5}(x)$

• Period: $\frac{\pi}{b} = \text{period} \rightarrow b = \frac{6}{5}$

$\frac{\pi}{6/5} = \text{period} \rightarrow \frac{\pi}{1} \cdot \frac{5}{6} = \frac{5\pi}{6} = \frac{5\pi}{6} \rightarrow \boxed{\frac{5\pi}{6} = \text{period}}$

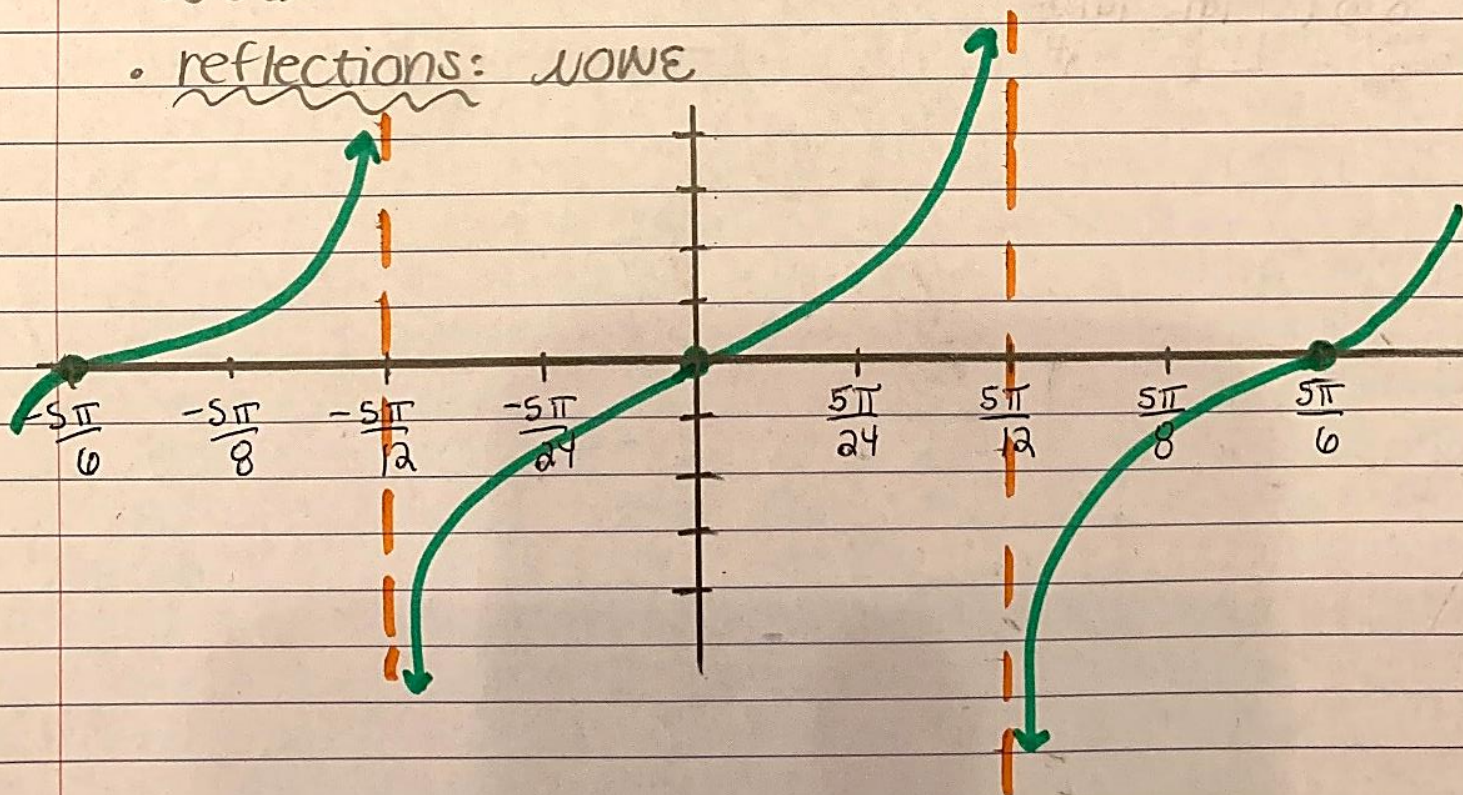
▷ split $\frac{5\pi}{6}$ into 4 equal segments: $\frac{5\pi}{6} \div 4 = \frac{5\pi}{6} \cdot \frac{1}{4} = \frac{5\pi}{24}$
 so, 4 equal parts are $0, \frac{5\pi}{24}, \frac{5\pi}{12}, \frac{5\pi}{8}, \frac{5\pi}{6}$

• amp: no amp for tang. • asymts: $X = \frac{\pi}{2|b|} + \frac{\pi n}{|b|} = \frac{\pi}{\frac{2}{1} \cdot \frac{6}{5}} + \frac{\pi(0)}{2/5}$

• shifts: NONE

▷ $= \frac{\pi}{\frac{12}{5}} + 0 = \frac{\pi}{1} \cdot \frac{5}{12} = \boxed{\frac{5\pi}{12} = X}$

• reflections: NONE



4.) $\arcsin(-\sqrt{3}/2)$

$\sin(x) = -\sqrt{3}/2$ (from $-\pi/2$ to $\pi/2$) @

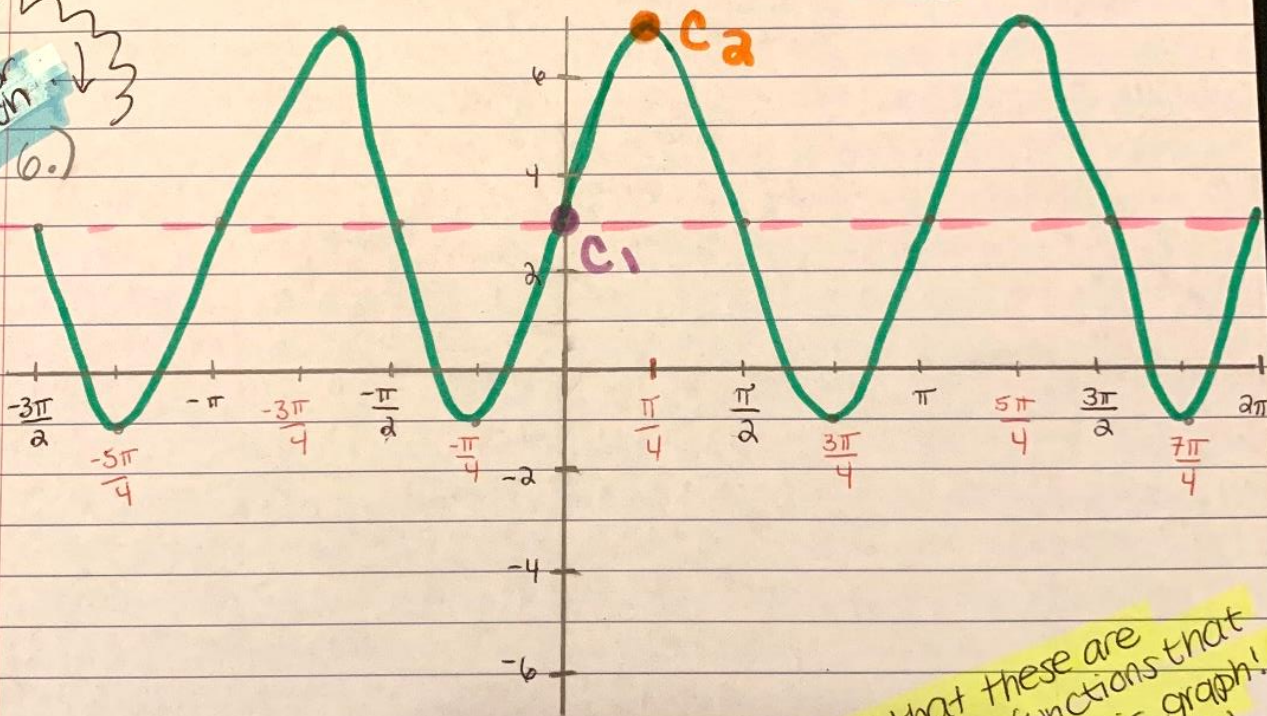
$-\frac{\pi}{3}$

5.) $\cos^{-1}(1/2)$

$\cos(x) = 1/2$ (from 0 to π) @

$\frac{\pi}{3}$

Part a
(calculator
permitted on
quiz)



• Period: $\pi \rightarrow \text{find } b \rightarrow \frac{2\pi}{b} = \frac{\pi}{1} \rightarrow$

$\pi b = 2\pi$
 $b = 2$

• d value: $d = 3$

• amp: $a = 4$

FUNCTIONS:

$C_1 \rightarrow C = 0 \rightarrow \text{int, max, int, min} \rightarrow y = 4 \sin 2(x) + 3$

$C_2 \rightarrow C = \frac{\pi}{4} \rightarrow \text{max, int, min, int} \rightarrow y = 4 \cos 2(x - \frac{\pi}{4}) + 3$

★ Keep in mind that these are not the only 2 functions that can be written for this graph! Every C value will give you a different function! plug both functions into the y= menu on your graphing calculator to make sure they're the same★