Honors Trigonometry Name _____

Convince *me* that **you** understand the concept. Per _____ Date _____

CHAPTER #3

I This section covers all of the first two pages of this exam. For *each* problem, supply **domain**, **range**, **amplitude**, **period** and **phase shift (including direction word)** and **draw** the graph *in the areas provided*. Be sure your drawing crosses or approaches the Y-axis. You may do the work for this exam *directly on thi*s exam paper rather than on the "newsprint" as usual. If you do work on newsprint be sure it is labeled with its problem number. **Indicate significant coordinates You *may* use decimals for your coordinate responses** (however you will probably spend more time using decimals than in not using decimals). Each problem in this section is worth 15 points.

A) $A(x) = 2\sin\left(\frac{2}{3}x - \frac{\pi}{6}\right) - 1$

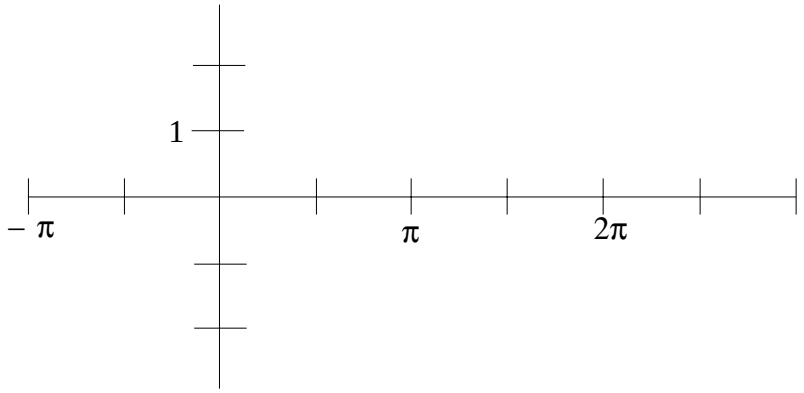
D_A

R_A

Per

Amp

P.S.



B) $B(x) = -\cos\left(\frac{3}{2}x + \frac{\pi}{2}\right)$

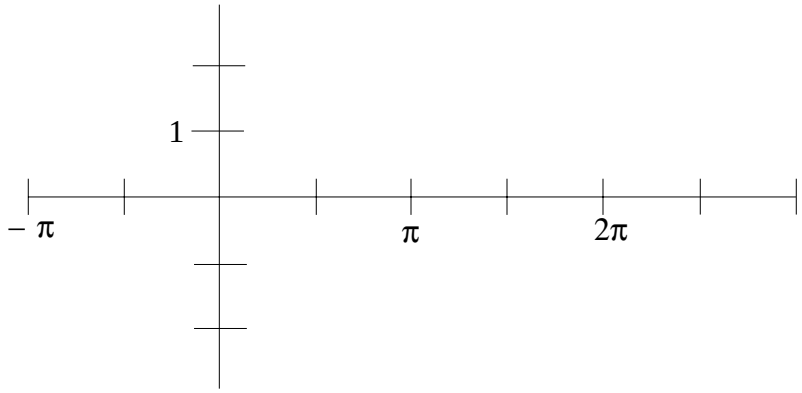
D_B

R_B

Per

Amp

P.S.



C) $C(x) = \sec\left(x - \frac{2\pi}{3}\right) - 1$

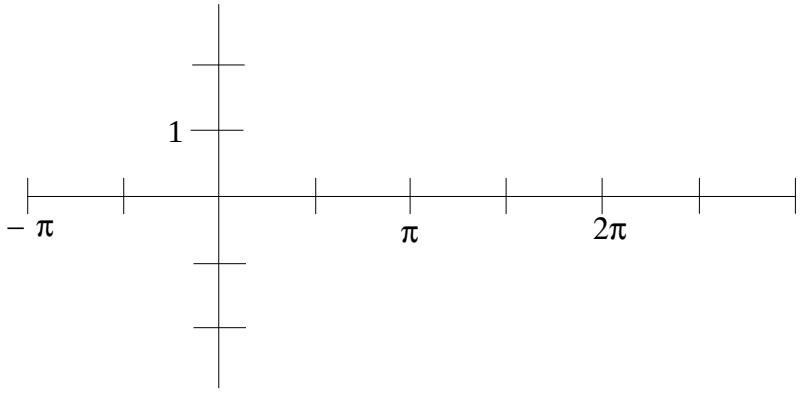
D_C

R_C

Per

Amp

P.S.



D) $D(x) = \cot\frac{4}{3}x$

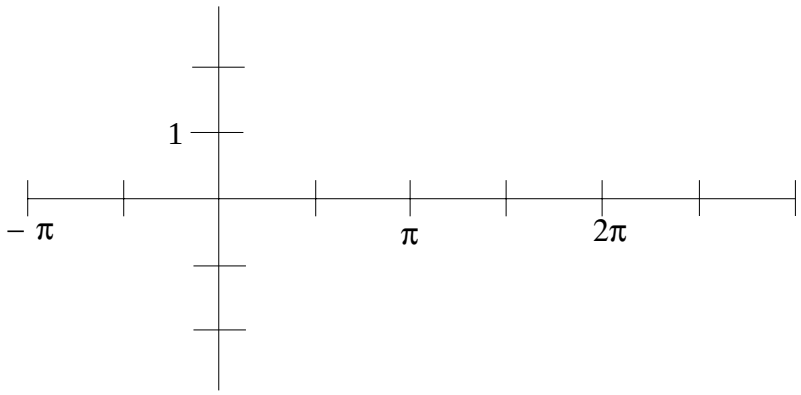
D_D

R_D

Per

Amp

P.S.



E) $E(x) = \csc\frac{2}{3}x$

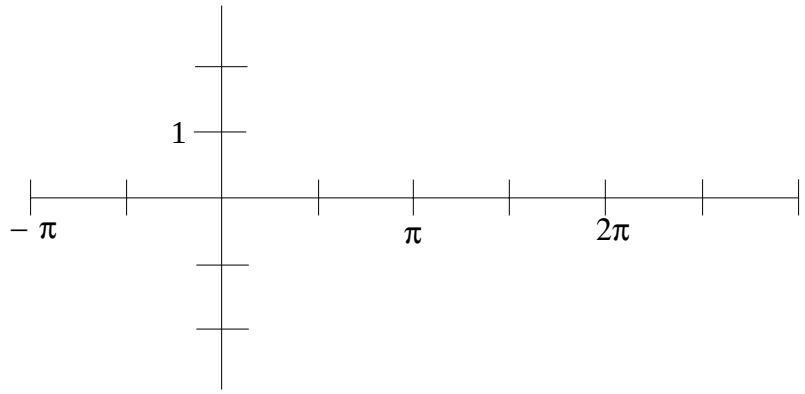
D_E

R_E

Per

Amp

P.S.

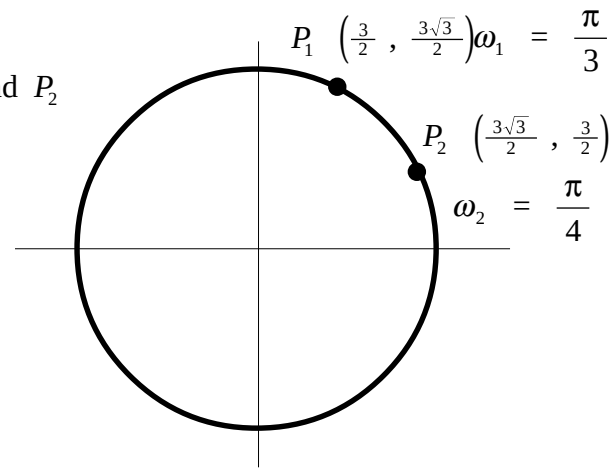


Do the remainder of the exam on the newsprint as usual.

II

(25 pts total)

Given the points P_1 and P_2 rotating around the circle with uniform circular motion. At time $t = 0$, P_1 and P_2 are at the locations indicated on the picture on the right.



a) When (find t) will P_1 and P_2 occupy the same location on the circle?
b) What are the coordinates of that point?
c) How far did P_1 travel?
d) How far did P_2 travel?

Extra Credit ..... 5 pts .....

Given: $f(x) = a\cos(bx + c)$ and
$g(x) = d\cos(e\,x + f)$

where $f(x)$ describes the movement of P_1 in section II above and $g(x)$ describes the movement of P_2 in section II above.

Find the explicit values of the constants: $a,\ b,\ c,\ d,\ e,$ and f.

Explain, of course.