Honors Trigonometry

Copy original problem.

Convince *me* that **you** understand the concept*!*

No Calculator. No decimal answers accepted.

Name _____

Per _____   Date _____

Chapter 1 Exam

I   Given $f(x) = \dfrac{2x - 1}{x + 2}$, $g(x) = \dfrac{2x - 1}{x - 3}$ and $h(x) = \dfrac{1}{(2x - 1)(x + 1)}$ (10 pts ea)

a) $A(x) = h\big(g(x)\big)$. Find D_A b) $B(x) = \dfrac{1}{\dfrac{1}{f(x)} + \dfrac{1}{g(x)}}$. Find D_B

c) $C(x) = \sqrt{-\dfrac{f(x)}{g(x)}}$. Find D_C.   d) $D(x) = f\big(g(x)\big)$. Find the formula for $D(x)$.

II   Solve for all x where x is a real number.
Graph solution on a number line as well as stating it in proper mathematical notation..   (10 pts ea)

a) $\dfrac{1}{2x - 3} \leq 4$ b) $\dfrac{|x - 1|}{|x + 1|} \geq 1$

c) $2x(x - 6) + 1 = -7$

III   Write as a "piece wise" function. Sketch the graph: $f(x) = |x + 1| - |x - 4|$ (10 pts)

IV   On a fresh sheet of paper, draw an axis and a large circle centered on the axis. Locate and mark the position with coordinate $(1, 0)$. Locate and mark each of the multiples of 30 degrees and 45 degrees which we use on the circle all the way around. At each of these "convenient locations" label with the angle in degrees, the radian measure of that spot and the coordinates on the unit circle of that spot.
          (20 pts tot)

Extra Credit ------------------- *5 pts* ------------------------------------

Solve for (x , y) : $\begin{cases} \dfrac{1}{2}x + \dfrac{5}{4}y = \dfrac{11}{4} \\[2mm] \dfrac{2}{3}x + \dfrac{1}{2}y = \dfrac{1}{6} \end{cases}$