Algebra 2   Bellwork   ~~Monday~~ WEDNESDAY, February ~~2~~ 4, 2015
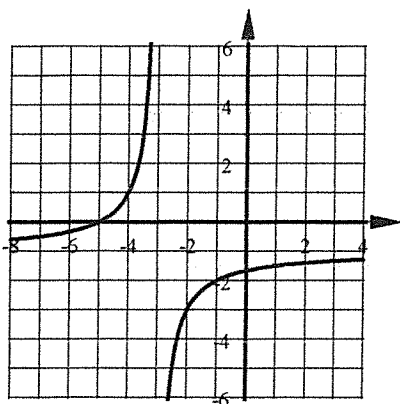
1. Solve this rational equation: $\dfrac{2x}{x+4} - \dfrac{3}{x-2} = \dfrac{6x-30}{x^2+2x-8}$

2. Write the equation of this graph which is a transformation of $y = \dfrac{2}{x}$

a)

Do THE BACK TOO!

3. Graph this transformation of the parent reciprocal function. Show the asymptotes as dashed lines and state the equations of the asymptotes.
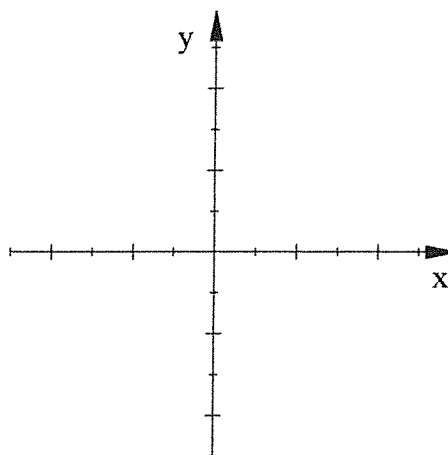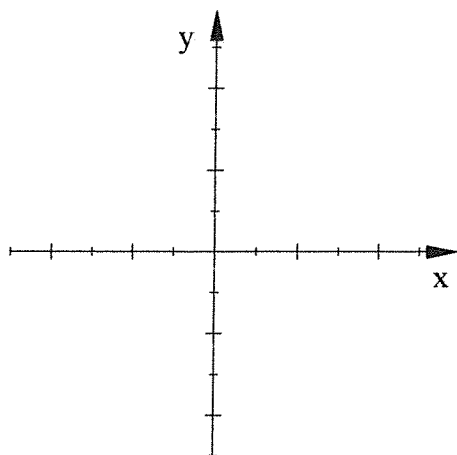
a) $y = \dfrac{0.3}{x-4} + 5$

    HA: VA:

b) $y\dfrac{-10}{x+2} - 6$

    HA: VA:

4. The parent reciprocal function has been translated 8 units left and 12 units down. The branches are in quadrants II and IV.   Write the equation of this function.

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1. Solve this rational equation: $\dfrac{2x}{x+4} - \dfrac{3}{x-2} = \dfrac{6x-30}{x^2+2x-8}$

$\dfrac{x-2}{x-2} \cdot \dfrac{2x}{x+4} - \dfrac{3}{x-2} \cdot \dfrac{x+4}{x+4} = \dfrac{6x-30}{(x+4)(x-2)} \longrightarrow$ $2x^2 - 4x - 3x - 12 = 6x - 30$
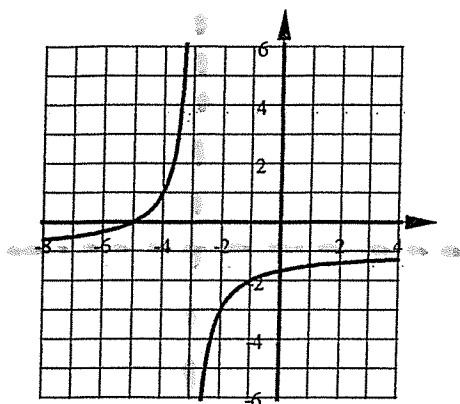
$2x^2 - 13x + 18 = 0$

$\boxed{X = \frac{9}{2}}$

2. Write the equation of this graph which is a transformation of $y = \frac{2}{x}$ $(2x-9)(x-2) = 0$

a)

$X = \frac{9}{2}, \cancel{2}$

Branches in Quad II & IV
HA $y = -1$ → 1 down
VA $x = -3$ → 3 left

$\boxed{y = \dfrac{-2}{x+3} - 1}$

DO THE BACK TOO!

3. Graph this transformation of the parent reciprocal function. Show the asymptotes as dashed lines and state the equations of the asymptotes.

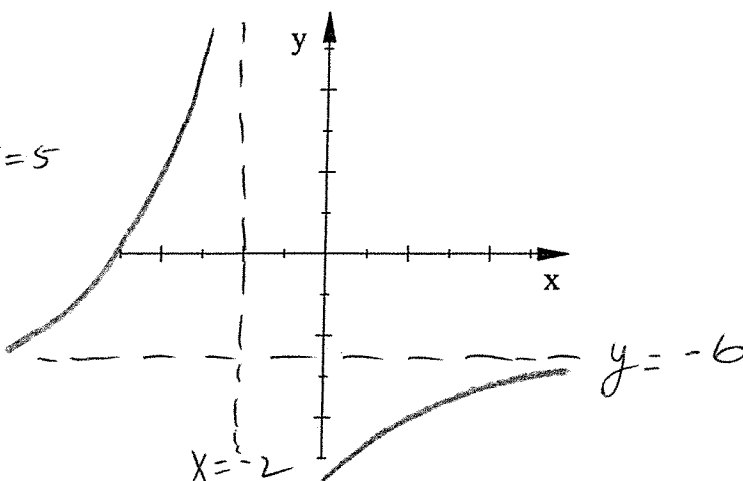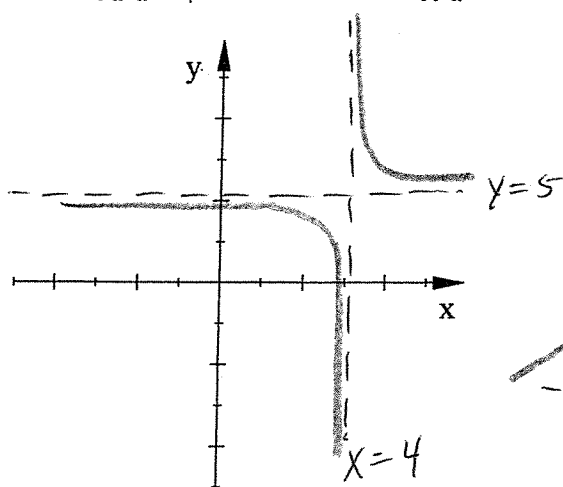a) $y = \dfrac{0.3}{x-4} + 5$ 4 RIGHT 5 UP   Quad I & III

HA: $y = 5$ VA: $x = 4$

b) $y \dfrac{-10}{x+2} - 6$ Quad II & IV   2 left   6 down

HA: $y = -6$ VA: $x = -2$

4. The parent reciprocal function has been translated 8 units left and 12 units down. The branches are in quadrants II and IV.   Write the equation of this function.

HA $y = -12$
VA $x = -8$

$\boxed{y = \dfrac{-1}{x+8} - 12}$