AA2 S2 Week 7 Friday Warm up

Simplify.

1. $\dfrac{8x^3-1}{x^2-1}\bullet\dfrac{x^2+4x+3}{2x^2+5x-3}$

$$\frac{(2x-1)(4x^2+2x+1)}{(x+1)(x-1)}\bullet\frac{(x+3)(x+1)}{(2x-1)(x+3)}$$

$$=\frac{4x^2+2x+1}{x-1};\ x\neq\pm1,-3,\frac{1}{2}$$

2. $\dfrac{2x^2-2}{x^2+x-2}-\dfrac{x-1}{x+2}$

$$\frac{x+3}{x+2},x\neq1,-2$$

3. *Find* $f^{-1}(x)$

$$f(x)=\frac{2x+3}{5}$$

$y=\frac{2x+3}{5}$

$x=\frac{2y+3}{5}$

$5x=2y+3$

$5x-3=2y$

$\frac{5x-3}{2}=f^{-1}(x)$

4. Explain the transformation from f(x) to g(x).

$$f(x)=x^2\quad g(x)=-\frac{2}{3}(x+5)^2$$

Reflection across the x-axis, vertical compression by a factor of 2/3, horizontal translation 5 units to the right

5. *Solve* $\dfrac{x}{x-6}=\dfrac{1}{x-4}$ (Any domain restrictions???)

THIS IS ON YOUR HOMEWORK TODAY

$$x(x-4)=1(x-6)$$
$$x^2-4x=x-6$$
$$x^2-5x+6=0$$
$$(x-2)(x-3)=0$$
$$x=2\ or\ x=3$$