Homework 18 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Find the compositions $f\left(g\left(x\right)\right), g\left(f\left(x\right)\right), f\left(f\left(x\right)\right), and g(g\left(x\right))$
2. $f\left(x\right)=\frac{3}{x-1}; g\left(x\right)=\frac{2}{x}$
3. $f\left(x\right)= x^{2}; g\left(x\right)= x=\sqrt{x^{2}-3}$
4. $f\left(x\right)=\frac{x}{x-1};g\left(x\right)= x^{2}+3x+4$
5. Find two functions $f(x)$ and $g(x)$ such that $f\left(g\left(x\right)\right)=…$
6. $H\left(x\right)=\left(2x+3\right)^{4}$
7. $K\left(x\right)=\left(1+x^{3}\right)^{2}$
8. $G\left(x\right)=\frac{1}{x^{2}+3x+2}$
9. $T\left(x\right)=\sqrt{\frac{1}{x}}$
10. $J\left(x\right)=|2x^{2}+3|$