Name: _____

Inverse of Functions

Sheet 2

1) If $f(x) = 10^x$ and $g(x) = \log_{10} 10x$, then evaluate

i) $(f \circ g)(x)$ = _____

ii) $(g \circ f)(x)$ = _____

iii) Are the functions $f(x)$ and $g(x)$ inverses? _____

2) If $f(x) = \left(\frac{x+9}{5}\right)^{\frac{1}{5}}$ and $g(x) = 5x^5 - 9$, then evaluate

i) $(f \circ g)(x)$ = _____

iii) Are the functions

3) Determine algebraic are inverses of each other.

4) Determine algebraically whether $f(x) = 2x + 11$ and $g(x) = -1 - 11x$ are inverses of each other.

Name: _____ **Answer key**

Inverse of Functions

Sheet 2

1) If $f(x) = 10^x$ and $g(x) = \log_{10} 10x$, then evaluate

i) $(f \circ g)(x)$ = **$10x$**

ii) $(g \circ f)(x)$ = **$x + 1$**

iii) Are the functions $f(x)$ and $g(x)$ inverses? **No**

2) If $f(x) = \left(\frac{x+9}{5}\right)^{\frac{1}{5}}$ and $g(x) = 5x^5 - 9$, then evaluate

i) $(f \circ g)(x)$ = _____ **x**

iii) Are the functions

3) Determine algebraic

are inverses of each other.

4) Determine algebraically whether $f(x) = 2x + 11$ and $g(x) = -1 - 11x$ are inverses of each other.

$(f \circ g)(x) = -22x + 9$

$(g \circ f)(x) = -22x - 122$

$(f \circ g)(x) \neq (g \circ f)(x) \neq x$

$f(x)$ and $g(x)$ are not inverses of each other.