Model Answers for InClass Exercises

Week 8

(a) f: R→R is given by f(x)=5/(7+x).
Find the inverse of f(x).

Answer

The inverse of *f(x)* does not exist as *f(x)* breaks at x=-7 (i.e. 5/-7+7 = 5/0)

(b) f: R→R is given by $f(x) = 4x^2-1$ and g: R→R is given by $g(x) = x+3$.

Find $(f\circ g)(x)$, $(g\circ f)(x)$, $(f\circ f)(x)$ and $(g\circ g)(x)$.

Answer

$$(f \circ g)(x) = 4x^2 + 24x + 35$$
$$(g \circ f)(x) = 4x^2 + 2$$
$$(f \circ f)(x) = 64x^4 - 32x^2 + 3$$
$$(g \circ g)(x) = x + 6$$