Functions Revision

(a)	(b)	(c)	(d)
$f(x) = x^2 + 6$ Find $f(4)$ 22	$g(x) = \dfrac{x}{x+5}$ Find $g(-1)$ -0.25	$f(x) = 2(x-1)^2$ Find $f(1.5)$ 0.5	$f(x) = 3x - 1$ Given $f(a) = 11$, find the value of a $x = 4$

(e)	(f)	(g)	(h)
$f(x) = \dfrac{3}{2x-4}$ Solve $f(x) = 1$ $x = 3.5$	$f(x) = x^2 \quad g(x) = x + 6$ Solve $f(x) = g(x)$ $x = 3, x = -2$	$g(x) = \dfrac{3x}{x-4}$ Find the value of x that cannot be included in any domain of g. $x \neq 4$	$f(x) = 2x^2 \quad g(x) = x - 5$ Find $fg(8)$ 18

(i)	(j)	(k)
$f(x) = 4 - 3x \quad g(x) = \dfrac{1}{2x+1}$ Find $gf(x)$, simplifying your answer. $\dfrac{1}{9-6x}$	$g(x) = 4x - 7$ Find the inverse function $g^{-1}(x)$ $g^{-1}(x) = \dfrac{x+7}{4}$	$f(x) = \dfrac{3x}{2x-1}$ Find the inverse function $f^{-1}(x)$ $f^{-1}(x) = \dfrac{x}{2x-3}$

(l)	(m)	(n)
$f(x) = \dfrac{3}{2x+1} \quad g(x) = 5 - x$ Solve $fg(x) = -1$ $x = 7$	$f(x) = \dfrac{2x}{1-3x}$ Solve $f(x) = f^{-1}(x)$ $x = 0, x = -\dfrac{1}{3}$	$g(x) = \dfrac{2x}{x+1}$ Find $gg(x)$ $gg(x) = \dfrac{4}{3x+1}$