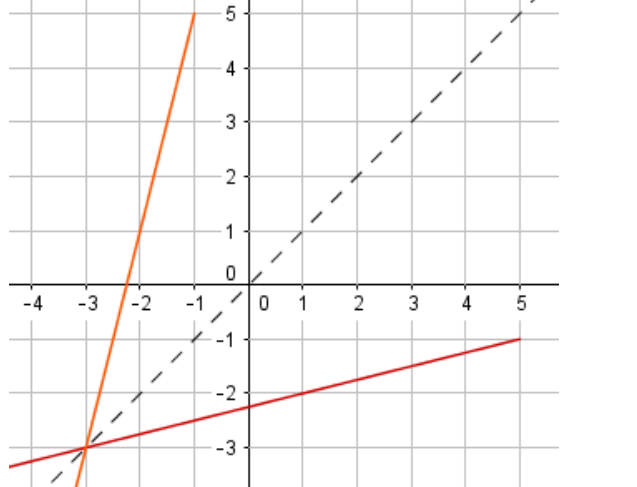
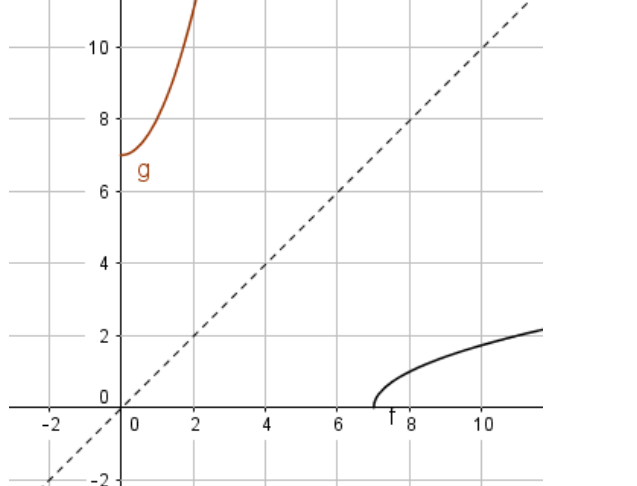
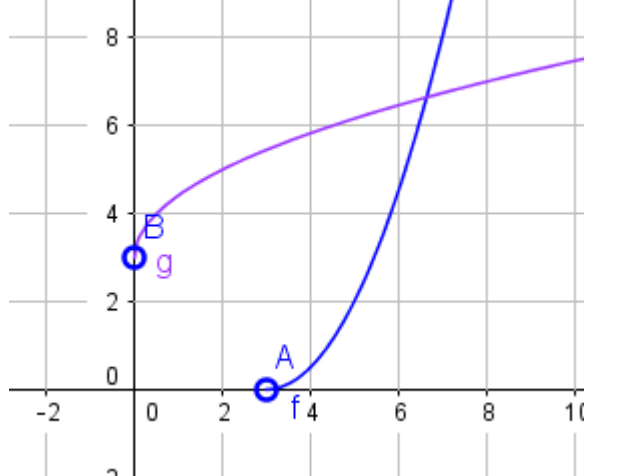


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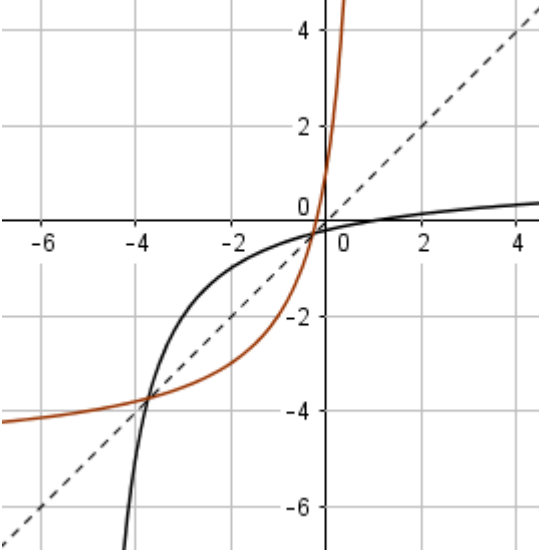
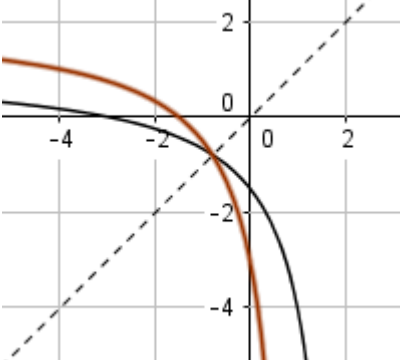
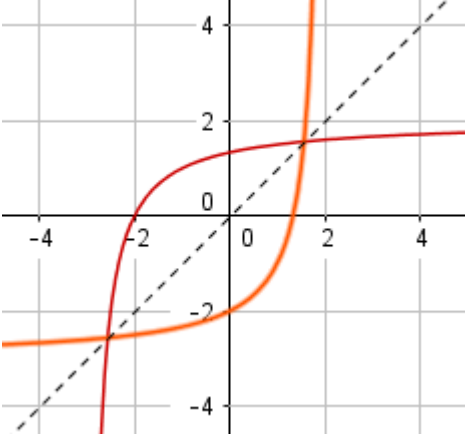
(1) Find ranges of $f(x)$ and $g(x)$ with the given domains

(2) Graph both functions on the same x-y plane

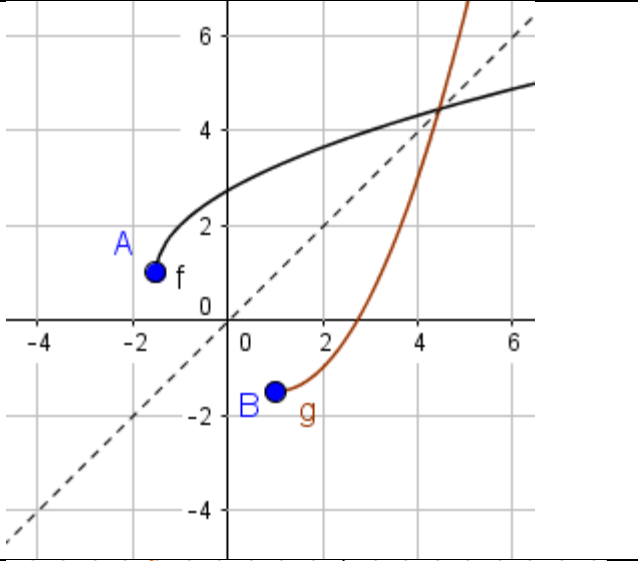
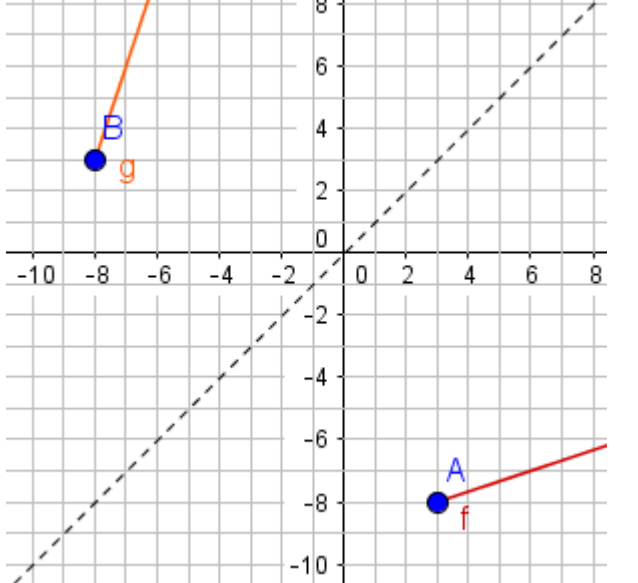
(3) Verify that $f(x)$ and $g(x)$ are inverse functions of each other algebraically as well as graphically.

f(x) and g(x)	graphs of f(x) and g(x)	ranges of f and g
$f(x) = \frac{x-9}{4}, x \leq 5$ $g(x) = 4x+9, x \leq -1$		<p>R:</p> $f(x) \leq -1$ $g(x) \leq 5$
$f(x) = \sqrt{x-7}, x \geq 7$ $g(x) = x^2+7, x \geq 0$		<p>R:</p> $f(x) \geq 0$ $g(x) \geq 7$
$f(x) = \frac{1}{2}(x-3)^2, x > 3$ $g(x) = \sqrt{2x}+3, x > 0$		<p>R:</p> $f(x) > 0$ $g(x) < 3$

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$f(x) = \frac{x-1}{x+5}, x > -5$ $g(x) = \frac{-5x-1}{x-1}, x < 1$		<p>R:</p> $f(x) < 1$ $g(x) > -5$
$f(x) = \frac{x+3}{x-2}, x < 2$ $g(x) = \frac{2x+3}{x-1}, x < 1$		<p>R:</p> $f(x) < 1$ $g(x) < 2$
$f(x) = \frac{2x+4}{x+3}, x > -3$ $g(x) = \frac{-3x+4}{x-2}, x < 2$		<p>R:</p> $f(x) < 2$ $g(x) > -3$

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$f(x) = \sqrt{2x+3} + 1, x \geq -\frac{3}{2}$ $g(x) = \frac{1}{2}(x-1)^2 - \frac{3}{2}, x \geq 1$		$f(x) \geq 1$ <p>R:</p> $g(x) \geq -\frac{3}{2}$
$f(x) = \frac{1}{3}x - 9, x \geq 3$ $g(x) = 3x + 27, x \geq -8$		$f(x) \geq -8$ <p>R:</p> $g(x) \geq 3$