FST Chap 3 review

1) Find the asymptotes: $y = \frac{1}{x-7} + 3$. ↑ 3

R 7

$x = 7$

$y = 3$

2) Use the original equation: $y = 2(x+3)^2 - 1$.

L 3 ↓ 1

a) Find the equation for the inverse.

$x = 2(y+3)^2 - 1$

$+1 \quad +1$

$\frac{x+1}{2} = \frac{2(y+3)^2}{2}$

$\pm\sqrt{\frac{x+1}{2}} = \sqrt{(y+3)^2}$

$y + 3 = \pm\sqrt{\frac{x+1}{2}}$

$-3 \quad -3$

$y^{-1} = \pm\sqrt{\frac{x+1}{2}} - 3$

b) Is the inverse a function? Explain.

No, fails VLT.

c) Sketch the graphs of the original and its inverse.

x	y
-5	7
-4	1
-3	-1
-2	1
-1	7

Inverse

x	y
7	-5
1	-4
-1	-3
1	-2
7	-1