Determine if the inverse relation IS a function or not by graphing each. Justify your answer.
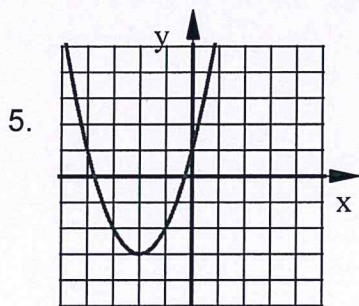
1. $y = \frac{1}{x}$

2. $f(x) = -2\sqrt{x+3}$

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

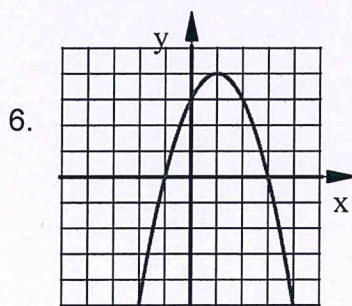4. $f(x) = \frac{3x^2}{x^2 - 4}$

For 5 and 6 do the following

a. State how would you have to restrict the Domain so that the inverse WOULD become a function.

b. State the resulting Range after this restriction.

5.

6.

Domain restriction:
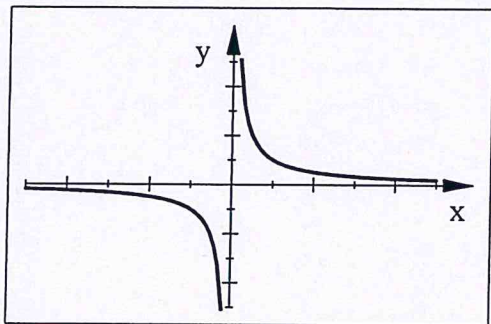
Range after restriction:

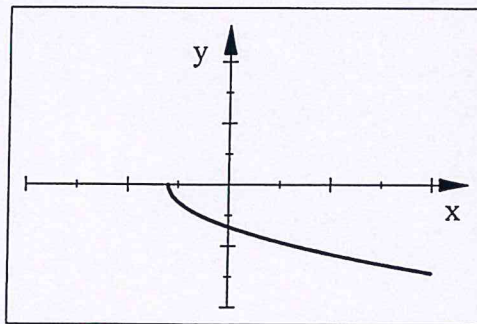Domain restriction:

Range after restriction:

Determine if the inverse relation IS a function or not by graphing each.   Justify your answer.
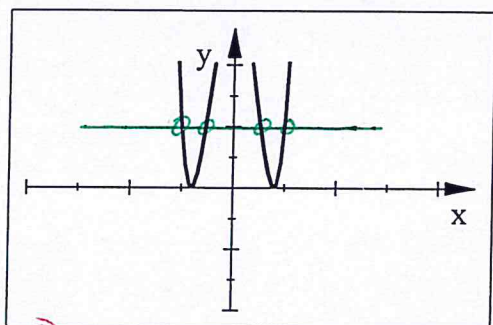
1. $y = \frac{1}{x}$

YES, INVERSE IS A FUNCTION
This graph is one-to-one
(it passes Horiz. Line Test)
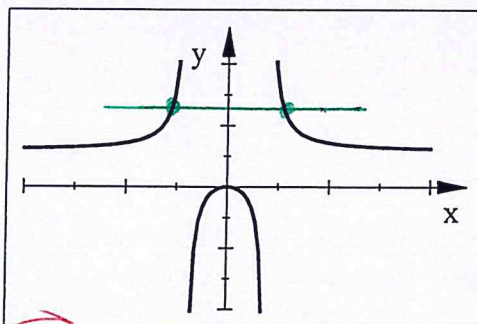
2. $f(x) = -2\sqrt{x+3}$

YES INVERSE IS A FUNCTION.
THIS GRAPH IS ONE-TO-ONE.
(IT PASSES HORIZ LINE TEST)

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

NO, INVERSE IS NOT A FUNCTION
THIS GRAPH IS NOT ONE-TO-ONE
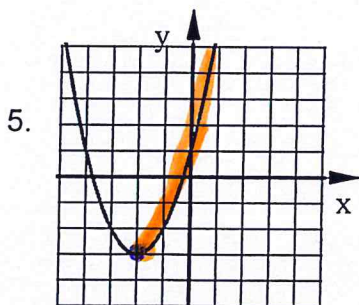(IT FAILS HORIZ LINE TEST)

4. $f(x) = \frac{3x^2}{x^2-4}$

NO, INVERSE IS NOT A FUNCTION.
THIS GRAPH IS NOT ONE-TO-ONE
(IT FAILS HORIZ LINE TEST)

For 5 and 6 do the following
a. State how would you have to restrict the Domain so that the inverse WOULD become a function.
b. State the resulting Range after this restriction.
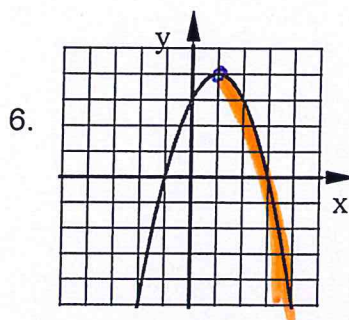
5.

Domain restriction:

$X \geq -2$

$[-2, \infty)$

Range after restriction:

$y \geq -3$

$[-3, \infty)$

6.

Domain restriction:

$X \geq 1$

$[1, \infty)$

Range after restriction:

$y \leq 4$

$(-\infty, 4]$

1