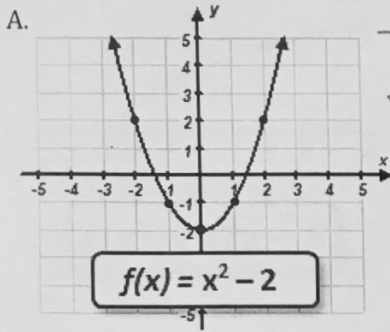


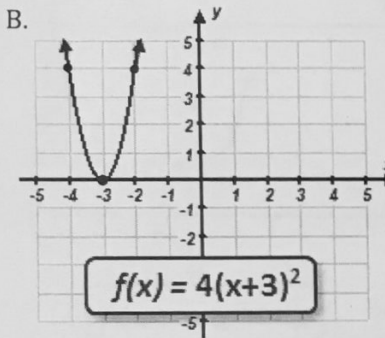
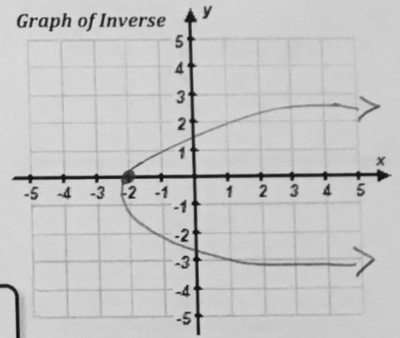
1. Consider the function $f(x)$ shown below. Find the inverse of the function, sketch a graph of the inverse, and determine whether or not the inverse is a function.



$D: (-\infty, \infty)$
 $R: [-2, \infty)$
 $x = y^2 - 2$
 $x + 2 = y^2$
 $\sqrt{x + 2} = y$

$D: [-2, \infty)$
 $R: (-\infty, \infty)$

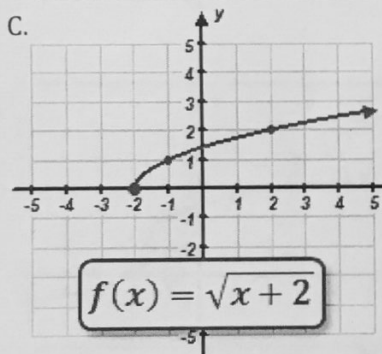
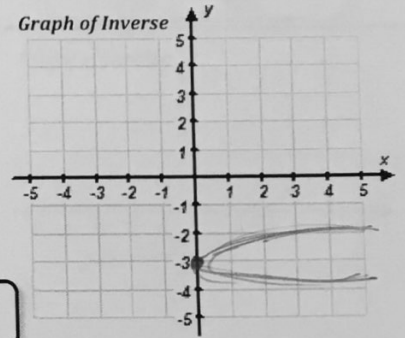
Is the Inverse a Function?
 YES NO



$D: (-\infty, \infty)$
 $R: [0, \infty)$
 $x = 4(y+3)^2$
 $\sqrt{\frac{x}{4}} = \sqrt{(y+3)^2}$
 $\frac{1}{2}\sqrt{x} = y+3$
 $\frac{1}{2}\sqrt{x} - 3 = y$

$D: [0, \infty)$
 $R: (-\infty, \infty)$

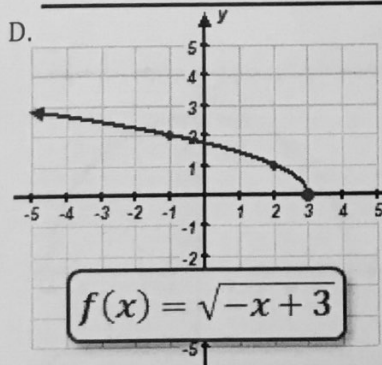
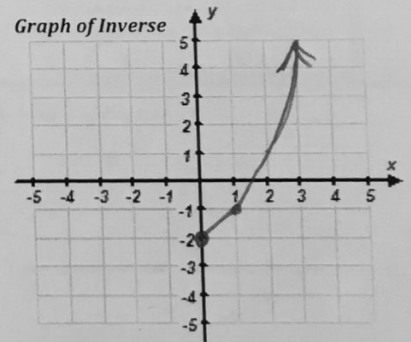
Is the Inverse a Function?
 YES NO



$D: [2, \infty)$
 $R: [0, \infty)$
 $x = \sqrt{y+2}$
 $x^2 = y+2$
 $x^2 - 2 = y$

$D: [0, \infty)$
 $R: [2, \infty)$

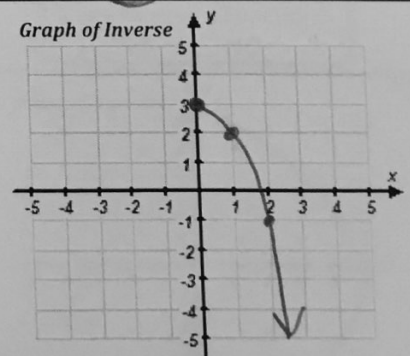
Is the Inverse a Function?
 YES NO



$D: (-\infty, 3]$
 $R: [0, \infty)$
 $x = \sqrt{-y+3}$
 $x^2 = -y+3$
 $x^2 - 3 = -y$
 $-x^2 + 3 = y$

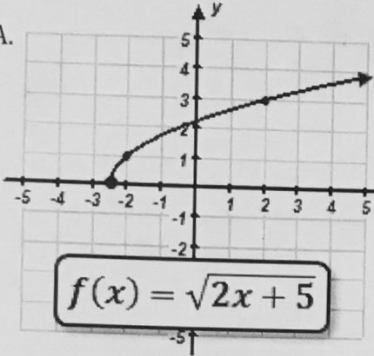
$D: [0, \infty)$
 $R: (-\infty, 3]$

Is the Inverse a Function?
 YES NO



Consider the function $f(x)$ shown below. Find the inverse of the function, sketch a graph of the inverse, and determine whether or not the inverse is a function.

A.

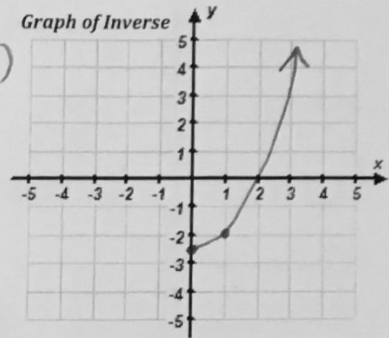


D: $[-2\frac{1}{2}, \infty)$
R: $[0, \infty)$

$X = \sqrt{2y+5}$
 $X^2 = 2y+5$
 $\frac{X^2-5}{2} = y$
 $\frac{1}{2}X^2 - \frac{5}{2} = y$

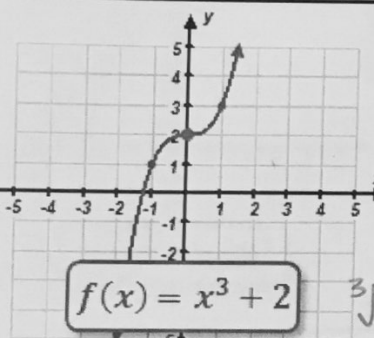
$f(x) = \sqrt{2x+5}$

D: $[0, \infty)$
R: $[-2\frac{1}{2}, \infty)$



Is the Inverse a Function?
 YES NO

B.

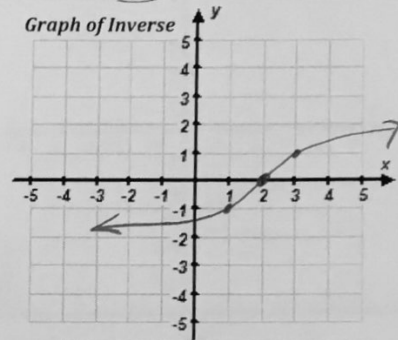


D: $(-\infty, \infty)$
R: $(-\infty, \infty)$

$X = Y^3 + 2$
 $X - 2 = Y^3$
 $\sqrt[3]{X-2} = Y$

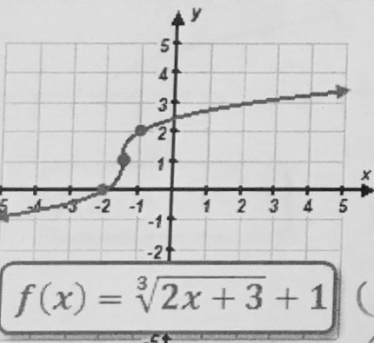
$f(x) = x^3 + 2$

D: $(-\infty, \infty)$
R: $(-\infty, \infty)$



Is the Inverse a Function?
 YES NO

C.

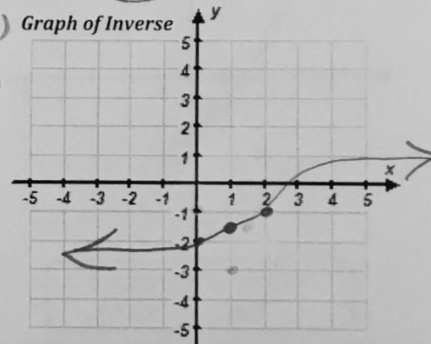


D: $(-\infty, \infty)$
R: $(-\infty, \infty)$

$X = \sqrt[3]{2y+3} + 1$
 $X - 1 = \sqrt[3]{2y+3}$
 $(X-1)^3 = 2y+3$
 $(X-1)^3 - 3 = 2y$
 $\frac{1}{2}(X-1)^3 - \frac{3}{2} = y$

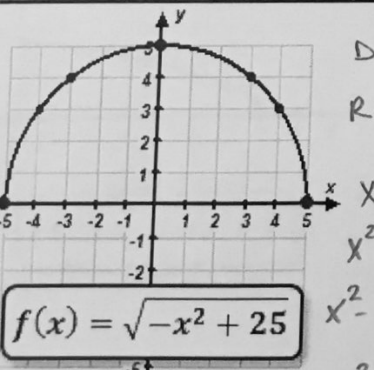
$f(x) = \sqrt[3]{2x+3} + 1$

D: $(-\infty, \infty)$
R: $(-\infty, \infty)$



Is the Inverse a Function?
 YES NO

D.

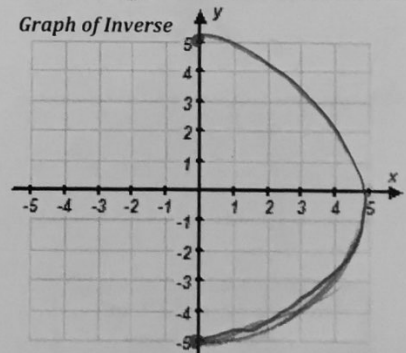


D: $[-5, 5]$
R: $[0, 5]$

$X = \sqrt{-Y^2 + 25}$
 $X^2 = -Y^2 + 25$
 $X^2 - 25 = -Y^2$
 $-X^2 + 25 = Y^2$
 $\sqrt{-X^2 + 25} = Y$

$f(x) = \sqrt{-x^2 + 25}$

D: $[0, 5]$
R: $[-5, 5]$



Is the Inverse a Function?
 YES NO