Bellwork Alg 2B Monday, October 9, 2017

Write the equation of the inverse relation for each function below.

1. $y = 2\left(\frac{\sqrt{6x+1}}{11}\right)^5 - 3$

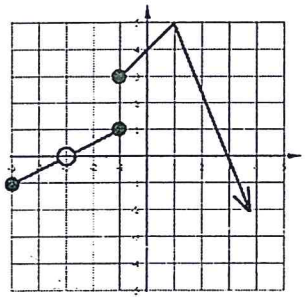
$f^{-1}(x) =$

2. $y = \frac{6\left(\frac{2x-5}{8}\right)^4 - 9}{7}$

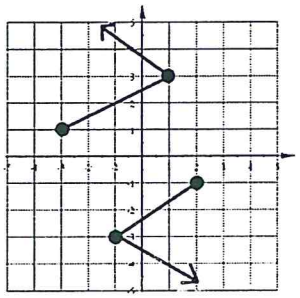
$f^{-1}(x) =$

Find the domain and range of the inverse relation to the graphs of f(x) shown below:

3.



4.



5. Given: $y = \frac{\sqrt{x+6}}{x-1}$ Is the inverse relation a function?

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Answers

Write the equation of the inverse relation for each function below.

1. $y = 2\left(\frac{\sqrt{6x+1}}{11}\right)^5 - 3$

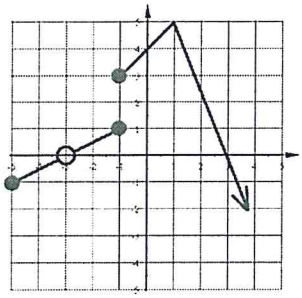
$f^{-1}(x) = \frac{\left[11 \cdot \sqrt[5]{\frac{x+3}{2}}\right]^2 - 1}{6}$

2. $y = \frac{6\left(\frac{2x-5}{8}\right)^4 - 9}{7}$

$f^{-1}(x) = \frac{\left[\pm\sqrt[4]{\frac{7x+9}{6}}\right] \cdot 8 + 5}{2}$

Find the domain and range of the inverse relation to the graphs of f(x) shown below:

3.



ORIGINAL

Domain: $[-5,-3) \cup (-3,\infty)$

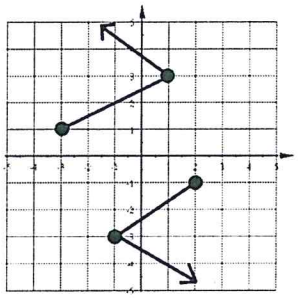
Range: $(-\infty, 5]$

INVERSE

Domain: $(-\infty, 5]$

Range: $[-5,-3) \cup (-3,\infty)$

4.



ORIGINAL

Domain: $(-\infty,\infty)$

Range $(-\infty,-1] \cup [1,\infty)$

INVERSE

Domain $(-\infty,-1] \cup [1,\infty)$

Range $(-\infty,\infty)$

5. Given: $y = \frac{\sqrt{x+6}}{x-1}$ Is the inverse relation a function?

Yes, inverse is a function

original function passes Horizontal Line Test