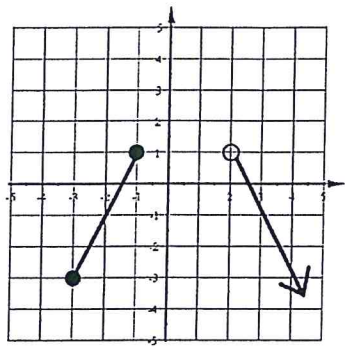
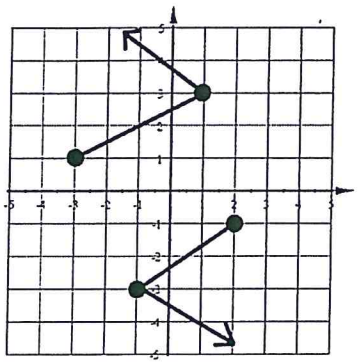
Algebra 2 Bellwork Wednesday, May 6, 2015

1. State the Domain and Range of the Inverse Relation of each.

a) 

b) 

2. To write the equation of the inverse relation you must switch x and y then solve for y. Write the equation of the inverse relation for each.

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

b) $y = \sqrt[3]{\frac{x+7}{2}} - 5 + 4$

3. Use what you may know about the graph of each or graph them using the graphing calculator to determine if the inverse relation of each is a function or not.

a) $f(x) = -4x + 1$

b) $y = \frac{x-1}{x^2-4}$

c) $y = x^5 - x^3 + 2x^2 - 2$

d) $f(x) = 5\sqrt{x+2} - 9$

Bellwork Answers

(1)

a) **original**

Domain: $-3 \le x \le -1, x > 2$

Range: $y \le 1$

INVERSE

Domain: $x \le 1$

Range: $-3 \le y \le -1, y$

b) **original**

Domain: R

Range: $y \le -1, y \ge 1$

INVERSE

Domain $x \le -1, x \ge 1$

Range: R

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

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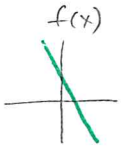
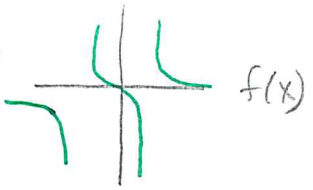
b) $f^{-1}(x) = 2\left((x-4)^3 + 5\right) - 7$

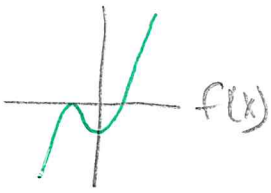
(3) a) Yes, inverse is a function



b) No, inverse is NOT a function



c) No, inverse is NOT a function



d) Yes, inverse is a function