

WARM UP

1) Graph: $y = 2\sqrt{x+4} - 3$

$(0,0) (1,1) (4,2)$
 $y+3 (0,0) (1,2) (4,4)$
 $x-4 (-4,-3) (-3,-1) (0,1)$

2) Find the inverse. Be sure to state the domain and range of both $f(x)$ and $f^{-1}(x)$

$$f(x) = (x + 2)^2 - 7$$

3) Write the domain and range of $f(x)$ in interval notation.

Is the graph a

function?

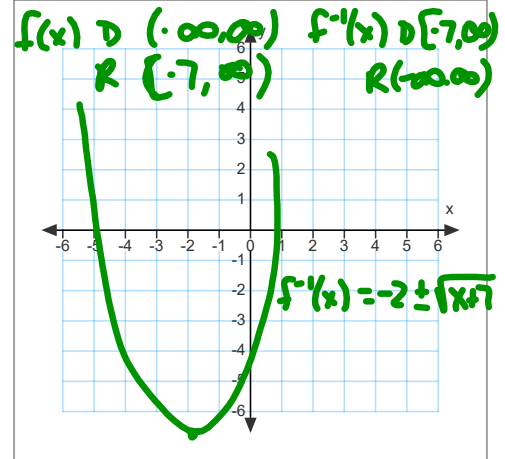
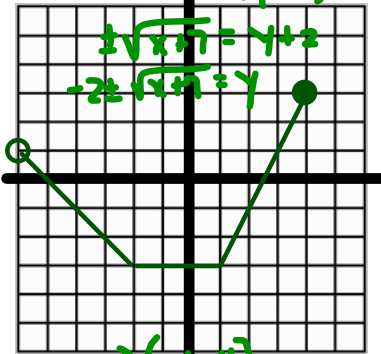
Using this graph, find each value.

6) $f(f(0))$

7) $f(-2) \cdot f(4) = -9$

8) Where $f(x) =$ undefined, what is the value of x ?

-6



Feb 2-9:51 PM

How do we find the domain of each square root problem? Think about - what does the graph look like? Discuss with a partner.

1) $f(x) = 3\sqrt{x}$

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

Also think about:

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What would be the domain of this one?

$$f(x) = \sqrt{2x+5} \quad D \left[-\frac{5}{2}, \infty\right)$$

$$f(x) = 3\sqrt{2x+5} \quad \text{same}$$

click to reveal

$$f(x) = 3\sqrt{2x+5} + 6 \quad \text{same}$$

$$f(x) = -3\sqrt{2x+5} + 6 \quad \text{same}$$

Jan 26-10:25 AM

3 Different situations when Finding the Domain:

- SIMPLE EQUATION: $y = 2x^2 - 3x + 1$
 $y = 2x - 5$

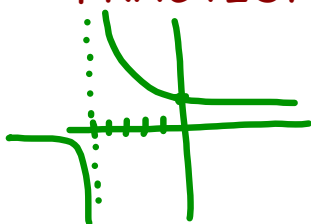
$$D(-\infty, \infty)$$

- SQ ROOT: $y = \sqrt{2x-10}$ $2x - 10 \geq 0$

$$2x \geq 10 \quad [5, \infty)$$

$$x \geq 5$$

- FRACTION: $y = \frac{7}{x+5} \neq 0$



$$x \neq -5$$

$$\leftarrow \text{---} \times \text{---} \rightarrow$$

$$-5$$

$$(-\infty, -5)(-5, \infty)$$

Jan 23-10:49 AM

Find the domain of each function (given an equation).

$$f(x) = \frac{1}{x} \quad x \neq 0 \quad (-\infty, 0) (0, \infty)$$

$$f(x) = \frac{2}{x-3} \quad x \neq 3 \quad (-\infty, 3) (3, \infty)$$

$$f(x) = \frac{5}{x^2 + 7x + 10} \neq 0 \quad \frac{(x+5)(x+2) \neq 0}{x+5 \quad | \quad x+2}$$

$$f(x) = \frac{5}{3x^2 + 13x - 10}$$

$\begin{array}{r} -30 \\ 15 \overline{) 2} \\ \underline{15} \\ 13 \end{array}$

$(-\infty, -5) (-5, 2) (2, \infty)$

$(-\infty, \infty)$

Jan 28-2:39 PM

GO COUGARS!



HW -

WB pg. 64 evens - you must show all factoring work!

and

WB pg. 63 #8-16 even and #21, 22

Feb 2-10:45 PM