Square Root of a Function II (2.2)

p86 day 4

assignment 1 due now

Spoon Theory

Enneagram 5

~~inverses~~

A (THIS) THAT HOLDS (THIS) ↓	CAR	HOUSE	BOAT
CAR	~~TOW TRUCK~~ CARCAR	~~GARAGE~~ CARHOUSE	~~CAR FERRY~~ CARBOAT
HOUSE	~~MOBILE HOME~~ HOUSECAR	~~APARTMENT~~ HOUSEHOUSE	HOUSEBOAT
BOAT	~~BOAT TRAILER~~ BOATCAR	BOATHOUSE	~~LIFEBOAT~~ BOATBOAT

I REALLY LIKE THE WORDS FOR "BOATHOUSE" AND "HOUSEBOAT" AND THINK WE SHOULD APPLY THAT SCHEME MORE CONSISTENTLY.

also: foodtruck, carphone

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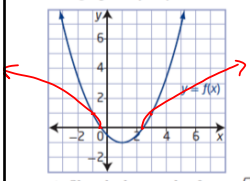
11. The graph of $y = f(x)$ is shown.

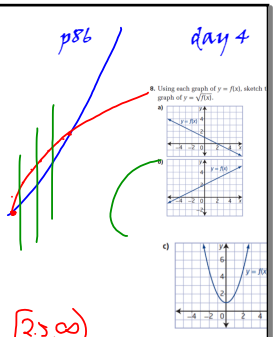


a) Sketch the graph of $y = \sqrt{f(x)}$, and explain the strategy you used.

b) State the domain and range of each function, and explain how the domains and the ranges are related.

D: $x \le -\frac{1}{2}, x \ge 2.5$ $(-\infty, -0.5], [2.5, \infty)$

R: $[0, \infty)$ $x \ge 0$



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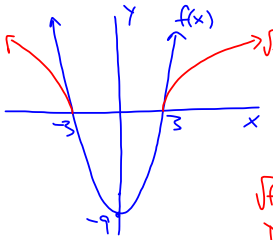
ex1: Given $f(x) = x^2 - 9$, list the domain and range for $f(x)$ and $\sqrt{f(x)}$



f(x)

D: $(-\infty, \infty)$ $x \in \mathbb{R}$

R: $[-9, \infty)$ $x \ge -9$

$\sqrt{f(x)}$ $x \le -3$ $x \ge 3$

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

R: $[0, \infty)$ $y \ge 0$

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Some notes on graphing $\sqrt{f(x)}$

The x-intercepts of f will also be on $\sqrt{f(x)}$

The points where y=1 will also be on $\sqrt{f(x)}$

Any parts of the domain where f(x) is below the x-axis will not be on $\sqrt{f(x)}$

Normally $\sqrt{f(x)}$ is below f(x)

When $0 < y < 1$, $\sqrt{f(x)}$ will be above f(x).

7, 9, 10

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ex2: Given the point (6, 2) on the graph of f(x), where will that point be on the graph of $y = \sqrt{2f(x)} + 7$

$\sqrt{2y} + 7$

$(x, y) \to (x, \sqrt{2y} + 7)$

$\therefore (6, 2) \to (6, 9)$

$\therefore$ therefore

16a, 13

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HW: p86#12, 14, 17ab