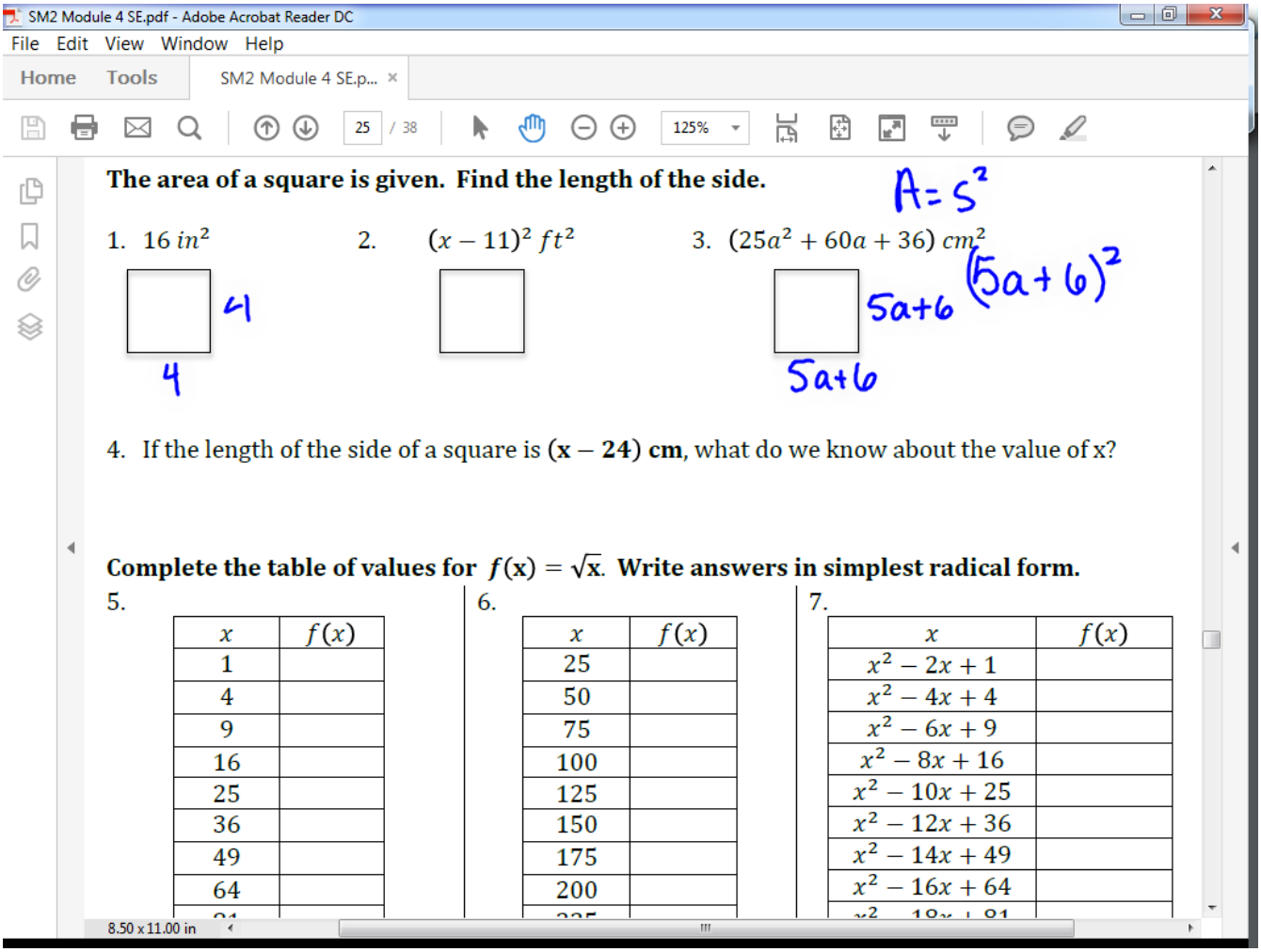
Friday, January 13 is the last day Ms. Hansen will accept any late/missing/extra credit work for 2nd quarter

-->This includes any test/quiz retakes

Questions on 4.5 HW?

Apr 8-8:30 AM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The area of a square is given. Find the length of the side.

$A = s^2$

1. $16\ in^2$

4

4

2. $(x-11)^2\ ft^2$

3. $(25a^2+60a+36)\ cm^2$

$5a+6$

$5a+6$

$(5a+6)^2$

4. If the length of the side of a square is $(x-24)$ cm, what do we know about the value of x?

Complete the table of values for $f(x)=\sqrt{x}$. Write answers in simplest radical form.

5.

x	$f(x)$
1	
4	
9	
16	
25	
36	
49	
64	

6.

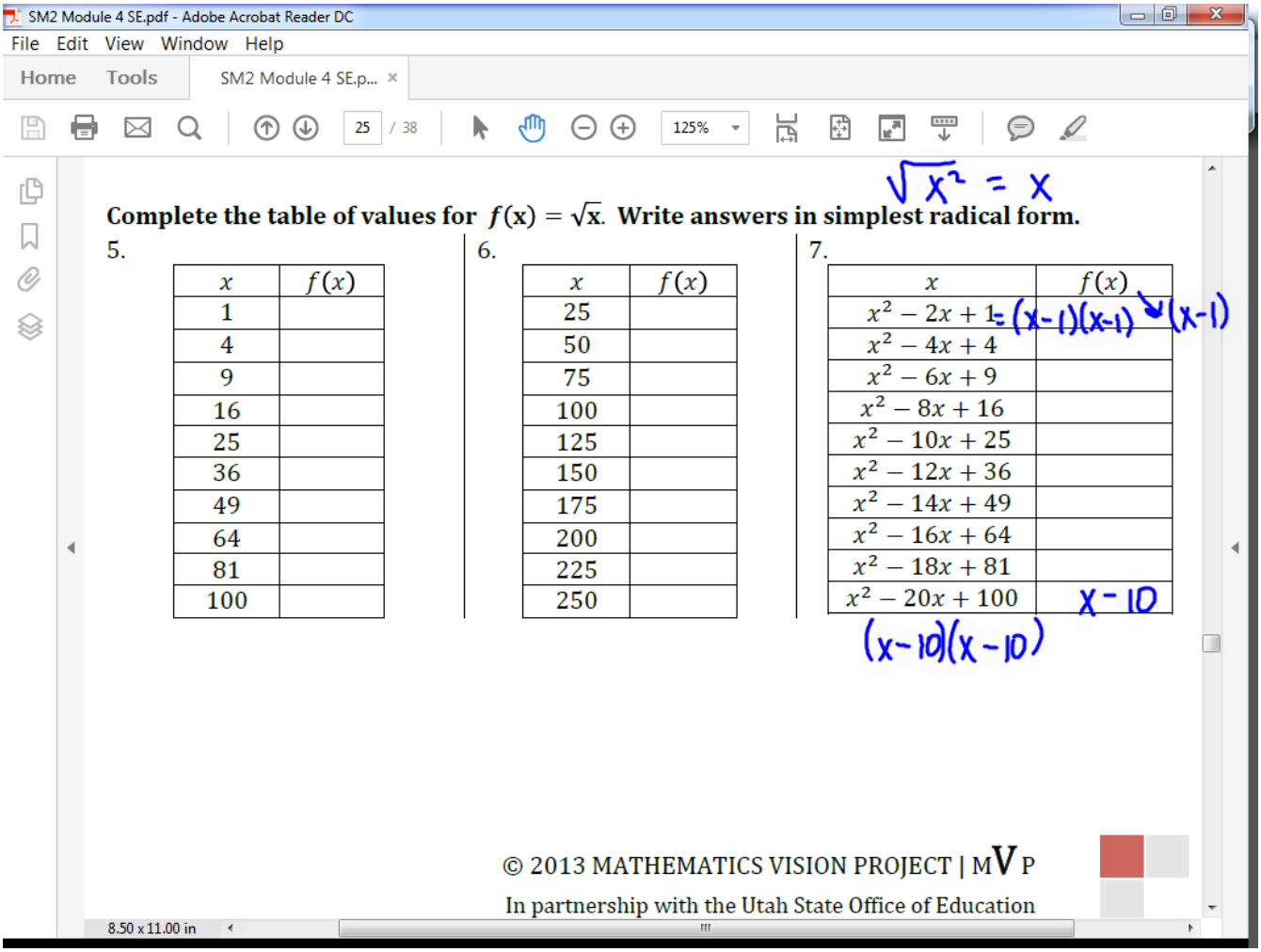
x	$f(x)$
25	
50	
75	
100	
125	
150	
175	
200	

7.

x	$f(x)$
x^2-2x+1	
x^2-4x+4	
x^2-6x+9	
$x^2-8x+16$	
$x^2-10x+25$	
$x^2-12x+36$	
$x^2-14x+49$	
$x^2-16x+64$	

8.50 x 11.00 in

Jan 11-8:04 AM



x	$f(x)$
1	
4	
9	
16	
25	
36	
49	
64	
81	
100	

x	$f(x)$
25	
50	
75	
100	
125	
150	
175	
200	
225	
250	

x	$f(x)$
$x^2 - 2x + 1$	
$x^2 - 4x + 4$	
$x^2 - 6x + 9$	
$x^2 - 8x + 16$	
$x^2 - 10x + 25$	
$x^2 - 12x + 36$	
$x^2 - 14x + 49$	
$x^2 - 16x + 64$	
$x^2 - 18x + 81$	
$x^2 - 20x + 100$	

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Set Topic: Inverse functions

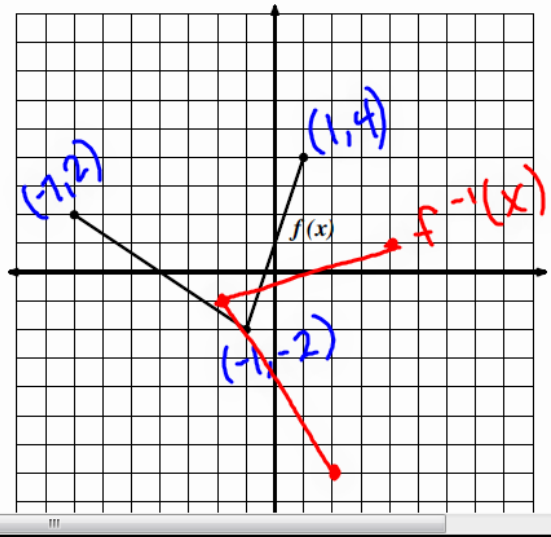
8. **Given:** $f(x) = \{(-13, 5)(-9, -9)(-5, -2)(-1, -5)(0, -4)(4, 6)(9, 10)(14, 32)\}$ function

Find $f^{-1}(x) = \{(5, -13)(-9, -9)(-2, -5)(-5, -1)(-4, 0)(6, 4)(10, 9)(32, 14)\}$

inverse function

9. The function $f(x)$ is shown on the graph. Graph $f^{-1}(x)$ on the same set of axes.

10. Is the graph of $f^{-1}(x)$ also a function? Justify your answer. no



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Jan 11-8:10 AM

4.6 Bernie's Bikes

A Solidify Understanding Task

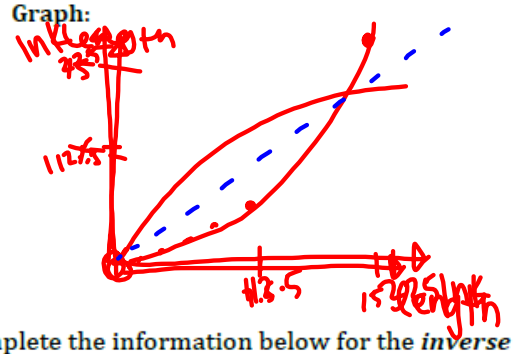
Bernie owns *Bernie's Bike Shop* and is advertising his company by taking his logo and placing it around town on different sized signs. After creating a few signs, he noticed a relationship between the amount of ink he needs for his logo and the size of the sign.

1. The table below represents some of the signs Bernie has created and the relationship between the amount of ink needed versus the size of the sign. Complete the information below to help Bernie see this relationship (don't forget to label your graph).

Length of sign (in feet)	Ink needed (in ounces)
3	9
4	16
2	4
15	225
x	x^2

Function: quadratic Domain: $(0, 15]$ Range: $(0, 225]$

Graph:

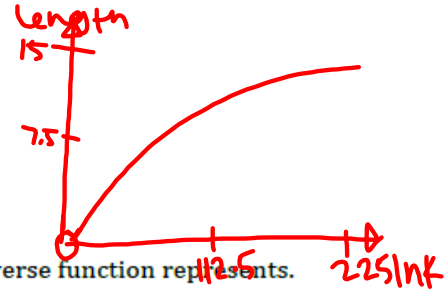


2. Using question 1, complete the information below for the ***inverse*** of this function (don't forget to label your graph).

Ink	Length
9	3
16	4
4	2
225	15
x^2 or x	x or $\sqrt{x}$

Function: square root or radical Domain: $(0, 225]$ Range: $(0, 15]$

Graph:



3. Explain in words what the inverse function represents.

Thinking about a situation in an opposite way.

Functions & their inverses...
- have graphs that reflect across the $y=x$ line.
- have domain & range that switch places.

Part II

Determine the inverse for each function, then sketch the graphs and state the domain and range for both the original function and it's inverse.

4. $f(x) = x^2 - 1$; $f^{-1}(x) =$ $y = \sqrt{x+1}$ $\pm\sqrt{x+1}$

Domain: $(-\infty,\infty)$ Domain: $[-1,\infty)$

Range: $[-1,\infty)$ Range: $(-\infty,\infty)$

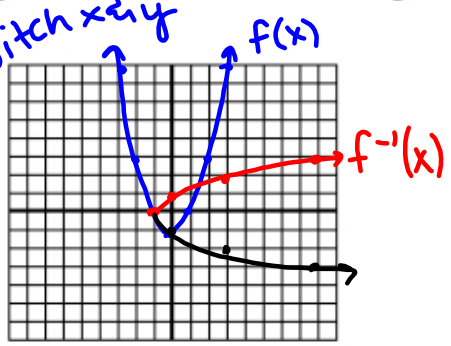
$y = x^2 - 1$

$+1 \quad +1$

$\sqrt{y+1} = \sqrt{x^2}$

$\sqrt{y+1} = x$

switch x & y



5. $g(x) = 3x + 2$; $g^{-1}(x) = \frac{x-2}{3}$ $= \frac{1}{3}x - \frac{2}{3}$

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

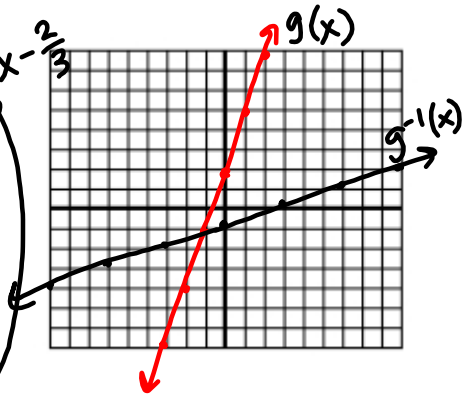
Range: $(-\infty,\infty)$ Range: $(-\infty,\infty)$

$g(x) = 3x + 2$

$-2 \quad -2$

$\frac{g(x)-2}{3} = \frac{3x}{3}$

$\frac{g(x)-2}{3} = g(x)$



6. $f(x) = (x+3)^2$; $f^{-1}(x) = -3 \pm \sqrt{x}$

Domain: $(-\infty,\infty)$ Domain: $[0,\infty)$

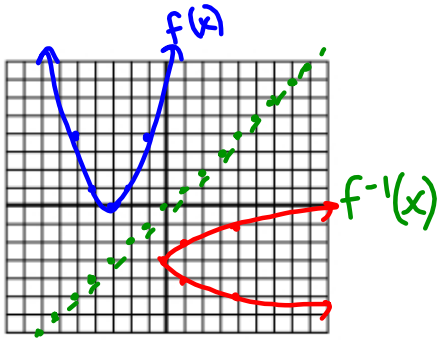
Range: $[0,\infty)$ Range: $(-\infty,\infty)$

$\sqrt{f(x)} = \sqrt{(x+3)^2}$

$\pm\sqrt{f(x)} = x + 3$

$-3 \quad -3$

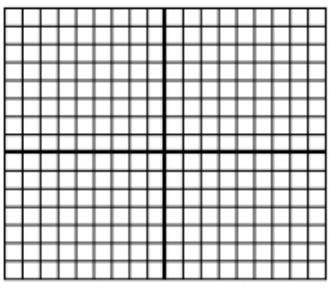
$-3 \pm \sqrt{f(x)} = f(x)$



7. $f(x) = x^3$; $f^{-1}(x) =$

Domain: Domain:

Range: Range:



Homework

Finish 4.6 "Ready, Set, Go"

Mar 28-9:36 AM