Homework Answers
pg 356 - 358:

4. {(3, -1), (5, 2), (5, -3), (0, 2)}

56. $f^{-1}(x) = -x + 7$

59. $f^{-1}(x) = (4 - 7x)/x$

f(x): D: {x|x ≠ -7}
R: {y|y ≠ 0}
$f^{-1}(x)$: D: {x|x ≠ 0}
R: {y|y ≠ -7}

61. $f^{-1}(x) = (3x+4)/(x-1)$

f(x): D: {x|x ≠ 3}
R: {y|y ≠ 1}
$f^{-1}(x)$: D: {x|x ≠ 1}
R: {y|y ≠ 3}

78 & 80 see graph

92. $f^{-1}(x) = (-x - 3)/x$

f(x): D: {x|x ≠ -1}
R: {y|y ≠ 0}
$f^{-1}(x)$: D: {x|x ≠ 0}
R: {y|y ≠ -1}

96. $f^{-1}(x) = (2x + 1)/(1 - x)$

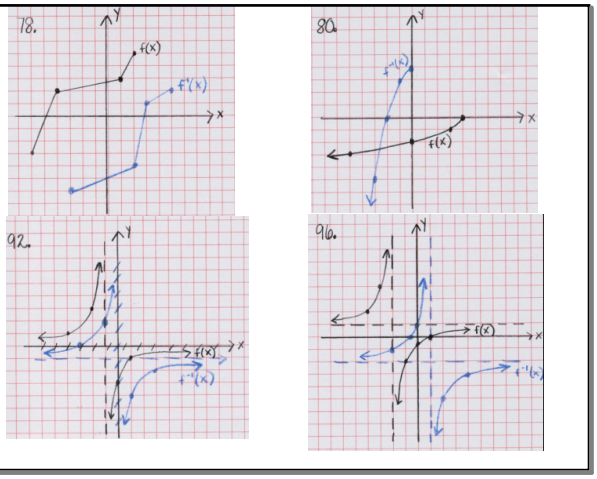
f(x): D: {x| ≠ -2}
R: {y|y ≠ 1}
$f^{-1}(x)$ D: {x|x ≠ 1}
R: {y|y ≠ -2}

Work on Warm- Up
On Today's Notes

OMIT:

44, 48 & 60 from tonight's HW

Nov 9-3:33 PM



Nov 9-3:52 PM

Exponential Functions

Nov 10-9:59 AM

Warm-Up: Find the inverse algebraically

1. $f(x) = \frac{1}{x-1}$ D: $x-1 \neq 0$ $x \neq 1$ R: $y \neq 0$ horizontal $(-\infty,0) \cup (0,\infty)$

$y = \frac{1}{x-1}$

new

$x = \frac{1}{y-1}$

$x(y-1) = 1$

$xy - x = 1$

$\frac{xy}{x} = \frac{1+x}{x}$

$f^{-1}(x) = \frac{1+x}{x}$ D: $(-\infty,0) \cup (0,\infty)$ R: $(-\infty,1) \cup (1,\infty)$

2. $f(x) = \frac{3x-4}{2x+1}$ $(-\infty,1) \cup (1,\infty)$ D: $2x+1 \neq 0$ $x \neq -\frac{1}{2}$ R: $(-\infty,\frac{3}{2}) \cup (\frac{3}{2},\infty)$ H.A.: $y = \frac{3}{2}$

$y = \frac{3x-4}{2x+1}$

new

$x = \frac{3y-4}{2y+1}$

$x(2y+1) = 3y-4$

$2xy + x = 3y - 4$

$-x \quad -3y \quad -x$

$2xy - 3y = -x - 4$

$y(2x-3) = \frac{-x-4}{2x-3}$

$f^{-1}(x) = \frac{-x-4}{2x-3}$ D: $(-\infty,\frac{3}{2}) \cup (\frac{3}{2},\infty)$ R: $(-\infty,\frac{1}{2}) \cup (\frac{1}{2},\infty)$

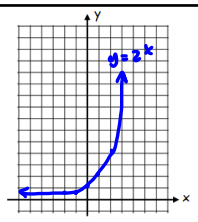
Nov 9-10:21 AM

Graph $y = 2^x$

x	-2	-1	0	1	2		
$y=2^x$	$\frac{1}{4}$	$\frac{1}{2}$	1	2	4		

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

R: $(0,\infty)$



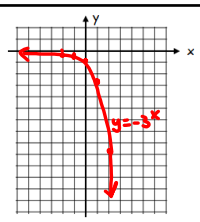
Nov 9-10:24 AM

Graph $y = -3^x$ -3^x

x	-2	-1	0	1	2
$y=-3^x$	$-\frac{1}{9}$	$-\frac{1}{3}$	-1	-3	-9

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

R: $(-\infty,0)$



Nov 9-10:24 AM

List the transformation(s) needed to transform $h(x) = 2^x$ into the graph of the given function:

$y = 2^x$

1. $f(x) = 2^x - 5$ — down 5 units
2. $f(x) = 2^{(x+2)} - 5$ — left 2, down 5
3. $f(x) = -2^x + 1$ — reflection in x, up 1
4. $f(x) = 2^{-x} - 4$ — reflect y, down 4
5. $f(x) = 3 \cdot 2^{(x+1)}$ — V.S. 3, left 1
6. Write the f(x) which is h(x) translated up 2 and left 3.

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

Nov 9-10:24 AM

pg 357 : 62
find the inverse
$f(x) = \frac{5x-3}{2x+1}$

pg 370 - 371 :
14. $f(x) = 3^{-x}$
17. $y = -2^x$

} Graph on Graph Paper w/ tables

27-32 State Transformations from $f(x) = 2^x$
27. $f(x) = 2^{x+1}$
28. $f(x) = 2^{x-1}$
29. $f(x) = 2^x - 3$
30. $f(x) = 2^x + 1$
31. from $f(x) = 3^x$: $f(x) = 4 - 3^{-x}$
32. $f(x) = 2^{x-1} - 3$

Nov 5-2:17 PM

Nov 6-7:46 AM