

Homework Answers  
pg 356 - 358:

4.  $\{(3, -1), (5, 2), (5, -3), (0, 2)\}$   
78 & 80 see graph

56.  $f^{-1}(x) = -x + 7$   
59.  $f^{-1}(x) = (4 - 7x)/x$   
92.  $f^{-1}(x) = (-x - 3)/x$

*Work on Warm-Up  
On Today's Notes*

OMIT:  
44, 48 & 60 from  
tonight's HW

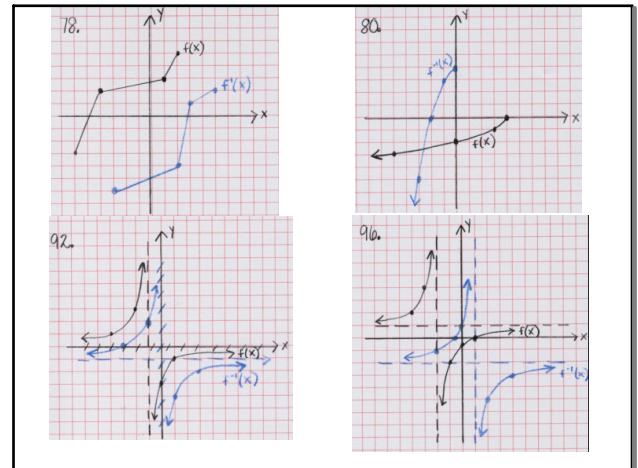
$f(x)$ : D:  $\{x|x \neq -7\}$   
R:  $\{y|y \neq 0\}$   
 $f^{-1}(x)$ : D:  $\{x|x \neq 0\}$   
R:  $\{y|y \neq -7\}$

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

61.  $f^{-1}(x) = (3x+4)/(x-1)$   
 $f(x)$ : D:  $\{x|x \neq 3\}$   
R:  $\{y|y \neq 1\}$   
 $f^{-1}(x)$ : D:  $\{x|x \neq 1\}$   
R:  $\{y|y \neq 3\}$

96.  $f^{-1}(x) = (2x+1)/(1-x)$   
 $f(x)$ : D:  $\{x|x \neq -2\}$   
R:  $\{y|y \neq 1\}$   
 $f^{-1}(x)$ : D:  $\{x|x \neq 1\}$   
R:  $\{y|y \neq -2\}$

Nov 9-3:33 PM



Nov 9-3:52 PM

## Exponential Functions

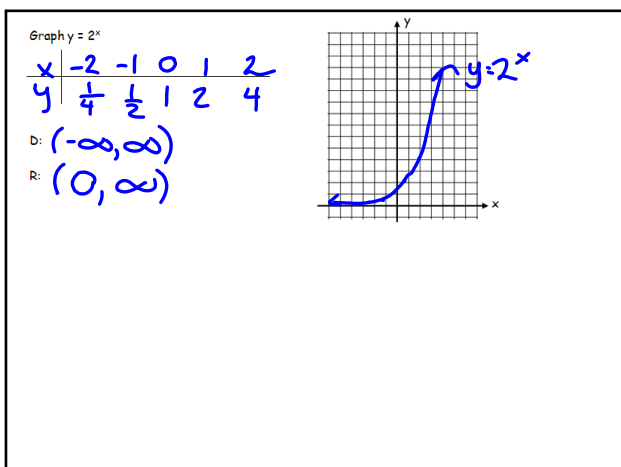
Nov 10-9:59 AM

Warm-Up: Find the inverse algebraically.

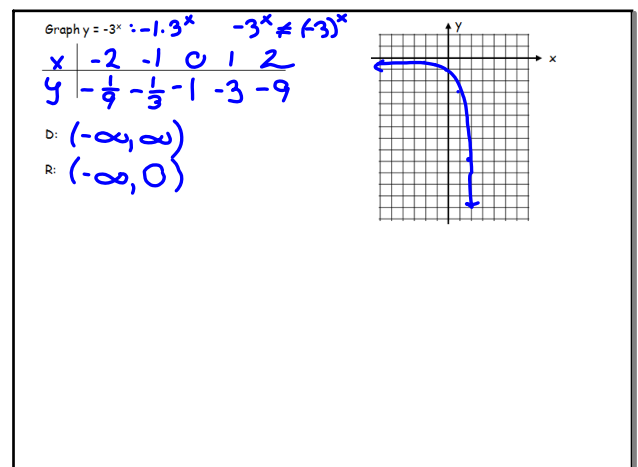
1.  $f(x) = \frac{1}{x-1}$  D:  $x \neq 1$   
R:  $y \neq 0$   
 $x = \frac{1}{y-1}$   
 $xy - x = 1$   
 $xy = x+1$   
 $y = \frac{x+1}{x}$   
 $f^{-1}(x) = \frac{x+1}{x}$   
D:  $x \neq 0$   
R:  $y \neq 1$

2.  $f(x) = \frac{3x-4}{2x+1}$  D:  $x \neq -\frac{1}{2}$   
R:  $y \neq \frac{3}{2}$   
 $x = \frac{3y-4}{2y+1}$   
 $2xy + x = 3y - 4$   
 $2xy - 3y = -x - 4$   
 $y(2x-3) = -x-4$   
 $y = \frac{-x-4}{2x-3}$   
 $f^{-1}(x) = \frac{-x-4}{2x-3}$  OR  $f^{-1}(x) = \frac{x+4}{3-2x}$   
D:  $x \neq \frac{3}{2}$   
 $y \neq -\frac{1}{2}$

Nov 9-10:21 AM



Nov 9-10:24 AM



Nov 9-10:24 AM

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

- $f(x) = 2^x - 5$   
VS down 5
- $f(x) = 2^{x+2} - 5$   
① HS left 2  
② VS down 5
- $f(x) = -2^x + 1$   
x-axis  
VS up 1
- $f(x) = 2^{-x} - 4$   
① y-axis  
② VS down 4
- $f(x) = 3 \cdot 2^{x+1}$   
① Vertical Stretch of 3  
② HS left 1.
- 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

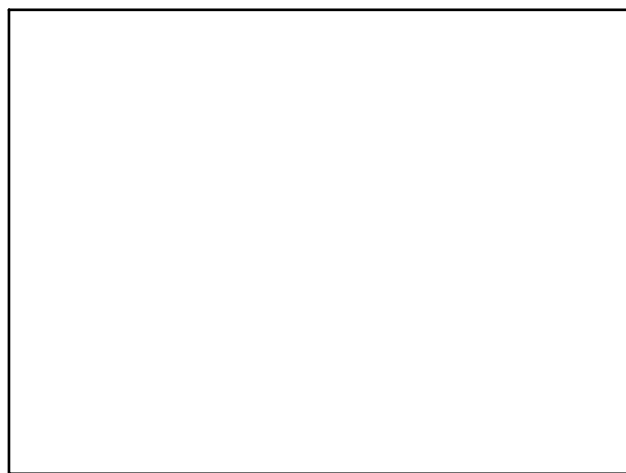
pg 357 : 62  
find the inverse  
 $f(x) = \frac{5x-3}{2x+1}$

pg 370-371 :  
14.  $f(x) = 3^{-x}$   
17.  $y = -2^x$  } Graph on Graph Paper w/ tables

27-32 State Transformations from  $f(x) = 2^x$

- $f(x) = 2^{x+1}$
- $f(x) = 2^{x-1}$
- $f(x) = 2^x - 3$
- $f(x) = 2^x + 1$
- from  $f(x) = 3^x : f(x) = 4 - 3^{-x}$
- $f(x) = 2^{x-1} - 3$

Nov 5-2:17 PM



Nov 6-7:46 AM