SECTION 7-2

EXERCISE A

Write the set of coordinates that represents the inverse of each relation.

1) {(2,4), (-3,1), (2,8)}

2) {(1,3), (1,-1), (1,-3), (1,1)}

3) {(2,6), (4,5), (-3,-1)}

Find the inverse "equation" of each function. Then graph the function and its inverse on the same coordinate grid. Make sure to label both the original function and its inverse.

4) f(x) = -x

5) g(x) = 3x + 1

6) $y = \frac{1}{2}x + 5$

7) y = -2

Determine whether each pair of functions are inverse functions.

8) f(x) = x + 7
g(x) = x – 7

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

10) g(x) = 2x + 8
$f(x) = \frac{1}{2}x - 4$

EXERCISE B

Write the set of coordinates that represents the inverse of each relation.

11) {(3,8), (4,-2), (5,-3)}

12) {(7,-4), (3,5), (-1,4), (7,5)}

13) {(-1,-2), (-3,-2), (1,-4), (0,6)}

Find the inverse "equation" of each function. Then graph the function and its inverse on the same coordinate grid. Make sure to label both the original function and its inverse.

14) y = -3

15) f(x) = x – 5

16) f(x) = 3x + 3

17) $y = \frac{1}{3}x$

18) $f(x) = \frac{1}{3}x + 4$

19) $g(x) = \frac{2x+3}{6}$

Determine whether each pair of functions are inverse functions.

20) f(x) = x – 5
g(x) = x + 5

21) f(x) = 3x + 4
g(x) = 3x – 4

22) f(x) = 5x – 7
$g(x) = \frac{1}{5}(x+7)$

23) g(x) = 2x + 1
$f(x) = \frac{x-1}{2}$

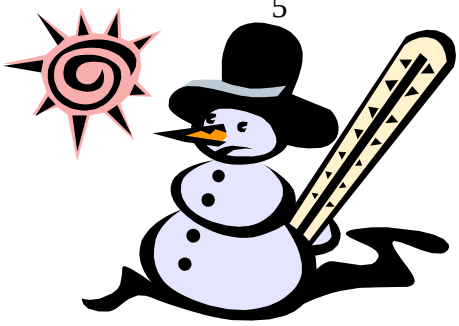
EXERCISE C

24) SpongeBob asked Patrick to choose a number between 1 and 35. He told him to subtract 12 from that number, multiply by 2, add 10, then divide the result by 4.

a) Write an equation that models the problem.
b) Find the inverse equation.
c) If Patrick's final number was 9, what was his original number?

25) The formula for converting degrees Celsius to Fahrenheit is $F(x) = \frac{9}{5}x + 32$

a) Find $F^{-1}(x)$.
b) Prove that $F(x)$ and $F^{-1}(x)$ are inverses .



ANSWERS: for all graphs, see Mr. Paull

1)	{(4,2), (1,-3), (8,2)}	11)	{(8,3), (-2,4), (-3,5)}	21)	no
3)	{(6,2), (5,4), (-1,-3)}	13)	{(-2,-1), (-2,-3), (-4,1), (6,0)}	23)	yes
5)	$g^{-1}(x) = \frac{1}{3}x - \frac{1}{3}$	15)	$f^{-1}(x) = x + 5$	25a)	$F^{-1}(x) = \frac{5}{9}(x - 32)$
7)	x = -2	17)	$y^{-1} = 3x$	b)	$[F \circ F^{-1}](x) = x$ ***and*** $[F^{-1} \circ F](x) = x$
9)	no	19)	$g^{-1}(x) = 3x - 1.5$		