Math 1330
Homework 3 (1.5)

Problem 1.5.4 refers to problem 4 in Chapter 1, Section 5 in the online text. Record your answers to all the problems in the EMCF titled "**Homework 3**."

1. Problem 1.5.4

   A. The function is one-to-one.

   B. The function is not one-to-one.

2. Problem 1.5.10 (Sketch first.)

   A. The function is one-to-one.

   B. The function is not one-to-one.

3. Problem 1.5.12 (Sketch first.)

   A. The function is one-to-one.

   B. The function is not one-to-one.

4. Problem 1.5.14 (Sketch first.)

   A. The function is one-to-one.

   B. The function is not one-to-one.

5. Problem 1.5.28

   A. 5 B. 3

   C. -4 D. 2

   E. None of the above

6. Problem 1.5.36

A. $f^{-1}(x) = -\frac{x}{4} - \frac{7}{4}$

B. $f^{-1}(x) = -\frac{x}{4} + \frac{7}{4}$

C. $f^{-1}(x) = \frac{1}{-4x+7}$

D. $f^{-1}(x) = -\frac{1}{4x} + \frac{1}{7}$

E. None of the above

7. Problem 1.5.46

A. $f^{-1}(x) = \frac{-2}{x+8}$

B. $f^{-1}(x) = \frac{5x+3}{x+8}$

C. $f^{-1}(x) = \frac{-5x+3}{x+8}$

D. $f^{-1}(x) = \frac{-5x+3}{x-8}$

E. $f^{-1}(x) = \frac{5x+3}{x-8}$

8. Problem 1.5.48

A. $f^{-1}(x) = (x-2)^2 - 5$

B. $f^{-1}(x) = (6x-2)^2 - 30$

C. $f^{-1}(x) = (x+2)^2 - 5$

D. $f^{-1}(x) = \frac{(x-2)^2 - 5}{6}$

E. None of the above

9. Problem 1.5.50

A. Yes, $f\left(g\left(x\right)\right) = g\left(f\left(x\right)\right) = x$

B. No, $f\left(g\left(x\right)\right) \neq g\left(f\left(x\right)\right)$

10. Find the linear function f if $f^{-1}(5)=7$ and $f^{-1}(8)=2$.

A. $f(x)=\frac{3}{5}x+\frac{4}{5}$

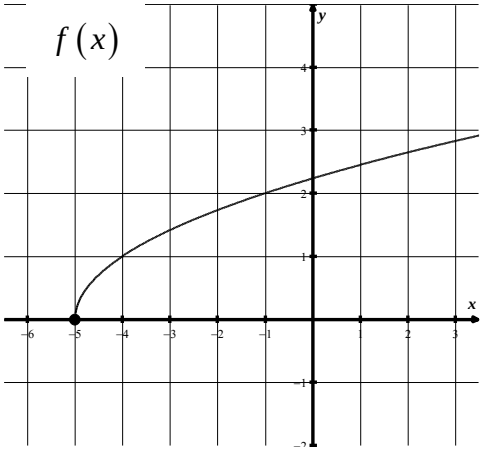
B. $f(x)=-\frac{3}{5}x+\frac{46}{5}$

C. $f(x)=-\frac{3}{5}x+\frac{4}{5}$

D. $f(x)=-\frac{5}{3}x+\frac{50}{3}$

E. None of the above

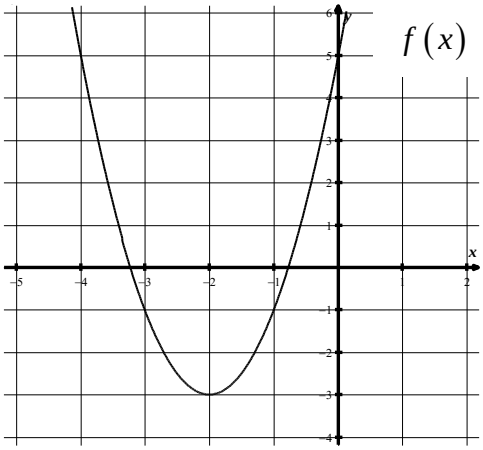
11. Is $f(x)$ one-to-one?



A. yes

B. no

12. Is $f(x)$ one-to-one?



A. yes

B. no

13. *f* and *g* are inverse functions. If $f(5)=2,\ \ f(9)=6$, find $g(f(9))$.

A. 9

B. 6

C. 5

D. 2

14. *f* and *g* are inverse functions. If $f(3)=5,\ \ f(5)=7$, find $g(5)$.

A. 7

B. 5

C. 3

15. Is the function one-to-one? $\{(1,5),(-2,5),(3,7),(1,8)\}$

A. yes

B. no