

Math 1330

Homework 2 (1.3 & 1.4)

Problem 1.3.10 refers to problem 10 in Chapter 1, Section 3 of the online text. Record your answers to all of the problems in the EMCF titled “**Homework 2.**”

1. Problem 1.3.14 – Which of the following describes the transformation?

- A. Horizontal Stretch
- B. Vertical Stretch
- C. Vertical Shrink
- D. Horizontal Shrink
- E. None of the above

2. Problem 1.3.20c

- | | | | |
|----|--------------------|----|-------------------|
| A. | $-4 + \sqrt{2-x}$ | B. | $-4 - \sqrt{x+2}$ |
| C. | $-4 - \sqrt{x-2}$ | D. | $-4 - \sqrt{2-x}$ |
| E. | $-4 - \sqrt{-2-x}$ | | |

3. Problem 1.3.20d

- | | | | |
|----|-------------------|----|--------------------|
| A. | $-4 + \sqrt{2-x}$ | B. | $-4 - \sqrt{-2-x}$ |
| C. | $-4 - \sqrt{x-2}$ | D. | $-4 - \sqrt{x+2}$ |
| E. | $-4 - \sqrt{2-x}$ | | |

4. Problem 1.3.24

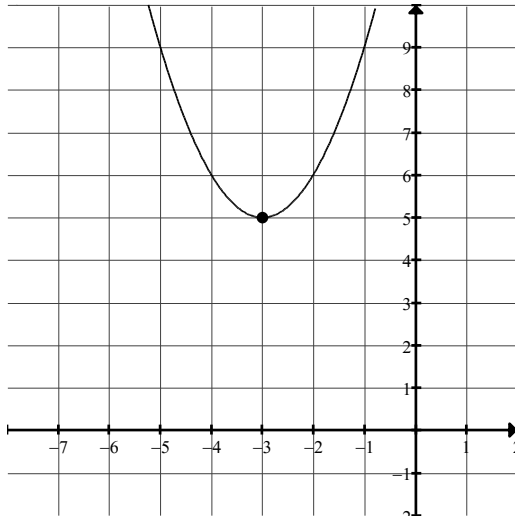
- A. Shift left 7 units, shrink vertically by a factor of 1/6, shift down 3 units
- B. Shift left 7 units, shrink vertically by a factor of 1/6, shift up 3 units
- C. Shift left 3 units, shrink vertically by a factor of 1/6, shift down 7 units
- D. Shift right 3 units, shrink vertically by a factor of 1/6, shift down 7 units
- E. None of the above

5. Problem 1.3.30

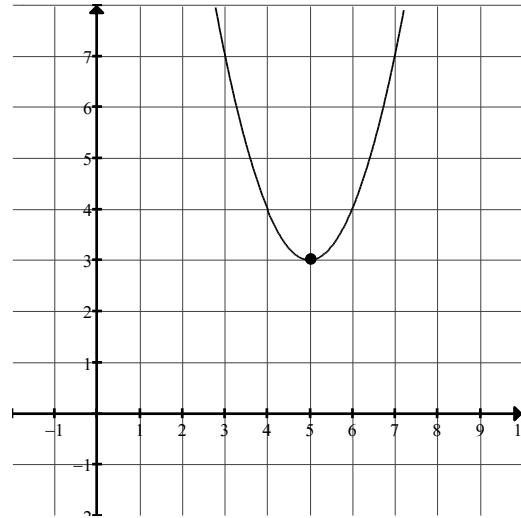
- A. Shift left 3 units, reflect about the y-axis, shift down 8 units
- B. Shift right 3 units, reflect about the y-axis, shift down 8 units
- C. Shift left 3 units, reflect about the x-axis, shift down 8 units
- D. Shift right 3 units, reflect about the x-axis, shift down 8 units
- E. None of the above

6. Problem 1.3.44

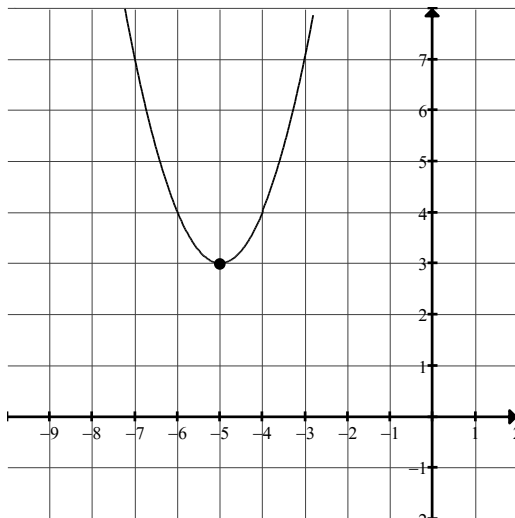
A.



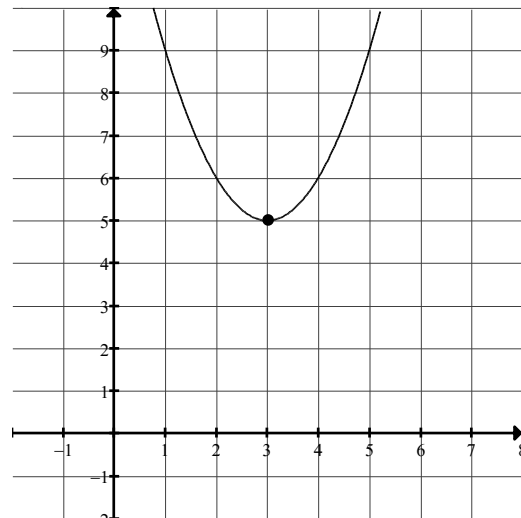
B.



C.

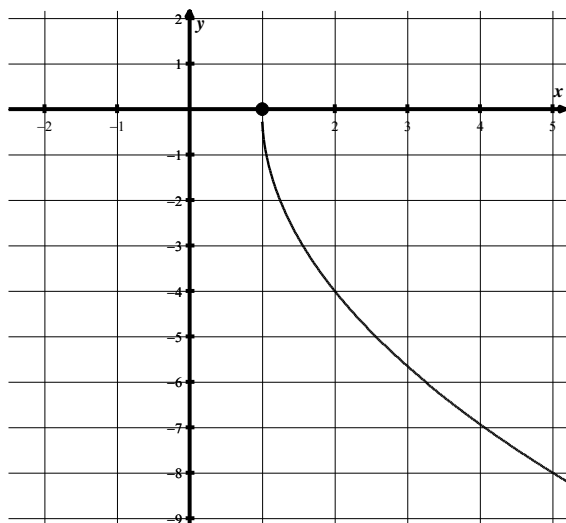


D.

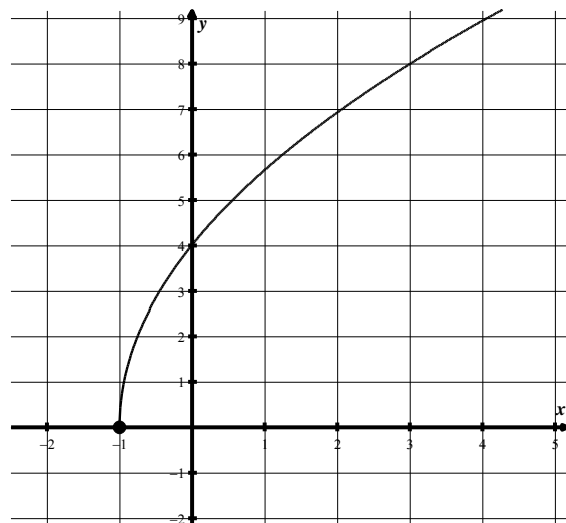


7. Which is the graph of $f(x) = -4\sqrt{x-1}$?

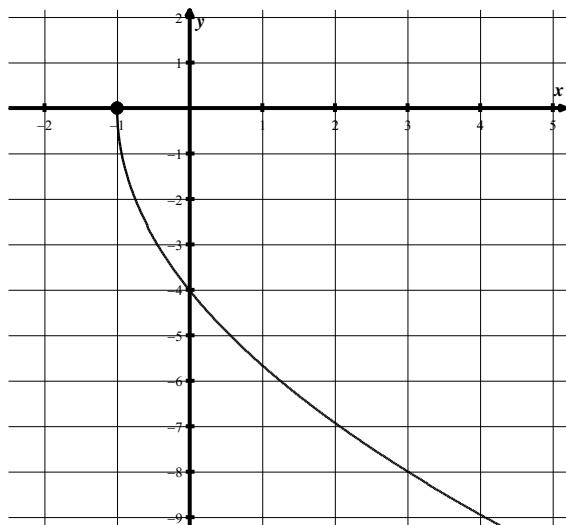
A.



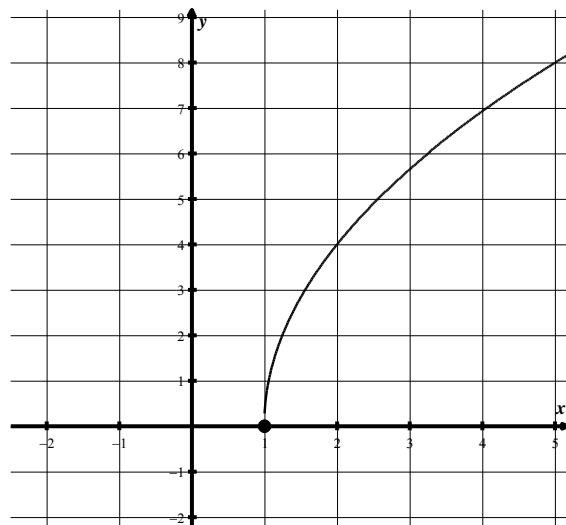
B.



C.

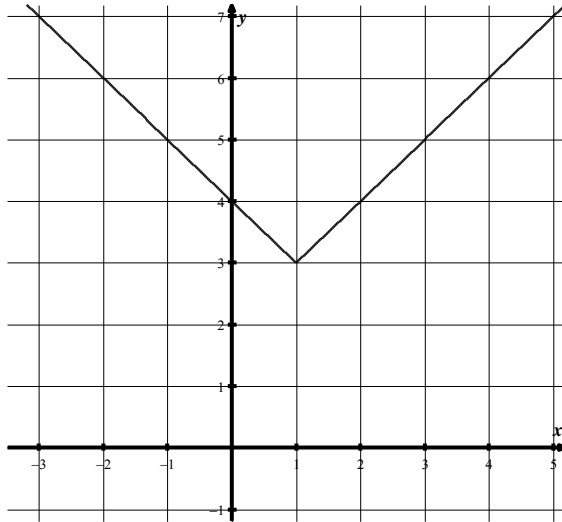


D.

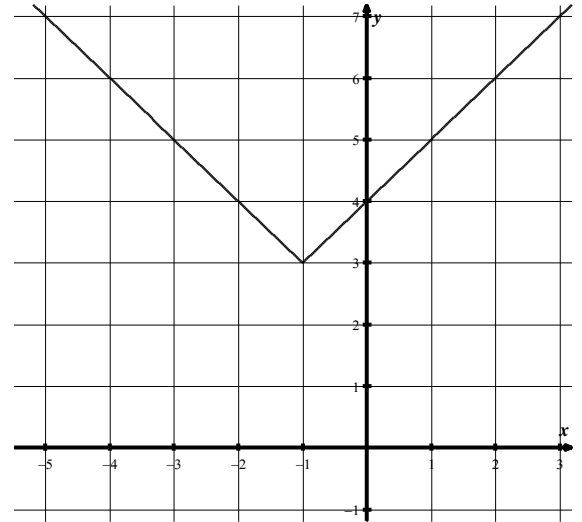


8. Which is the graph of $f(x) = |x+1| - 3$?

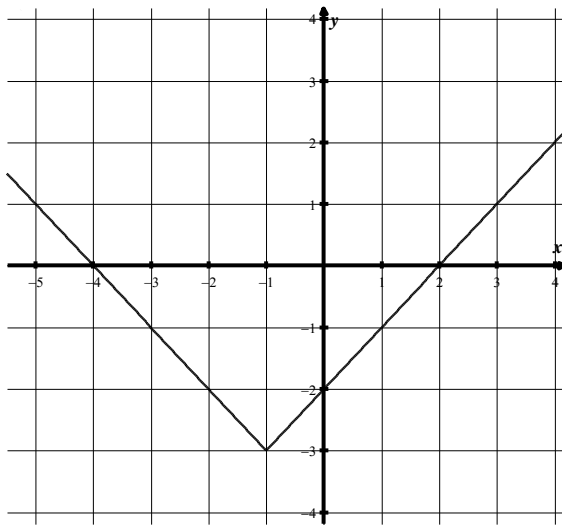
A.



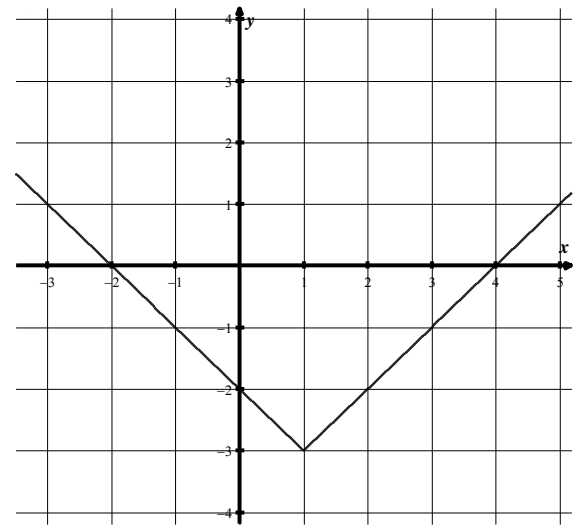
B.



C.



D.



9. Problem 1.4.4c Domain is $(-\infty, \infty)$.

A. $2x^5 + 25x^3 - 75x$

B. $2x^5 - 25x^3 - 75x$

C. $2x^5 + 16x^4 + 25x^3 + 40x^2 + 75x$

D.

$2x^5 + 16x^4 - 35x^3 - 40x^2 - 75x$

E. $2x^5 + 16x^4 + 25x^3 - 40x^2 - 75x$

10. Problem 1.4.14

A. $(-\infty, \infty)$

B. $(-\infty, 2) \cup (2, \infty)$

C. $(-\infty, -1) \cup (-1, 6) \cup (6, \infty)$

D. $(-\infty, -6) \cup (-6, 1) \cup (1, \infty)$

E. $(-\infty, -1) \cup (-1, 2) \cup (2, 6) \cup (6, \infty)$

11. Problem 1.4.20

A. a: 5

b: 5

B. a: -1

b: 0

C. a: 6

b: 0

D. a: 0

b: -1

E. a: 0

b: 6

12. Problem 1.4.44a, g

A. $f(g(-3)) = -27$

$f(f(x)) = x + 2$

B. $f(g(-3)) = -26$

$f(f(x)) = 2x + 2$

C. $f(g(-3)) = -14$

$f(f(x)) = x + 2$

D. $f(g(-3)) = 10$

$f(f(x)) = x^2 + 2x + 1$

E. $f(g(-3)) = -26$

$f(f(x)) = x + 2$

13. Problem 1.4.46 a, c

A. $f(g(3)) = \frac{4}{7}$ $f(g(x)) = \frac{7-x}{1+2x}$

B. $f(g(3)) = -25$ $f(g(x)) = \frac{7-x}{1+2x}$

C. $f(g(3)) = 0.25$ $f(g(x)) = \frac{5x+35}{x-5}$

D. $f(g(3)) = \frac{4}{7}$ $f(g(x)) = \frac{5x+35}{x-5}$

E. None of the above

14. Find the difference quotient $\frac{f(x+h) - f(x)}{h}$ for $f(x) = \frac{1}{x+3}$.

A. $\frac{-1}{(x+3)(x+h+3)}$

B. $\frac{1}{(x+3)(x+h+3)}$

C. $\frac{-h+6}{h(x+3)(x+h+3)}$

D. 0

Use the following table for numbers 15.

x	-3	-2	-1	0	1	2	3
$f(x)$	-6	4	-2	0	2	4	6
$g(x)$	0	-5	7	1	3	-1	4

15. Find $(f \circ g)(1)$ and $(g \circ f)(-1)$.

A. $(f \circ g)(1) = 6$ $(g \circ f)(-1) = -4$

B. $(f \circ g)(1) = 6$ $(g \circ f)(-1) = -5$

C. $(f \circ g)(1) = 4$ $(g \circ f)(-1) = -5$

D. $(f \circ g)(1) = 4$ $(g \circ f)(-1) = -4$