

Math 1330

Homework 4 (2.1)

Problem 2.1.10 refers to problem 10 in Chapter 2, Section 1 in the online text. Record your answers to all the problems in the EMCF titled “**Homework 4.**”

1. Problem 2.1.10

A. $y = -0.5x + 1$

B. $y = -2x + 2$

C. $y = -2x + 1$

D. $y = -0.5x + 2$

E. None of the above

2. Problem 2.1.16 d

A. $(0, \frac{1}{2})$

B. $(0, -2)$

C. $(0, -\frac{1}{2})$

D. $(0, 2)$

E. None of the above

3. Problem 2.1.24

A. $f(x) = \frac{1}{3}x + 6$

B. $f(x) = \frac{-1}{3}x + 6$

C. $f(x) = 3x + 6$

D. $f(x) = 3x - 6$

E. None of the above

4. Problem 2.1.30

A. $f(x) = -5x + 18$

B. $f(x) = 5x - 32$

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

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

E. None of the above

5. Problem 2.1.40

A. $f(x) = 4x - 11$

B. $f(x) = \frac{-5}{7}x + \frac{3}{7}$

C. $f(x) = \frac{5}{7}x - \frac{17}{7}$

D. $f(x) = 5x - 7$

E. None of the above

6. Problem 2.1.42

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

B. $f(x) = \frac{2}{3}x + 4$

C. $f(x) = \frac{-3}{2}x + 4$

D. $f(x) = \frac{3}{2}x + 4$

E. None of the above

7. Problem 2.1.44

A. $C(x) = 55x$

B. $C(x) = 40x$

C. $C(x) = 40x + 55$

D. $C(x) = 55x + 40$

8. Problem 2.1.50 a

A. $f(x) = (3x+9)^2 - 66$

B. $f(x) = 3(x+3)^2 + 6$

C. $f(x) = 3(x+3)^2 - 6$

D. $f(x) = (x+3)^2 - 4$

E. $f(x) = 3(x+3)^2 - 12$

9. Problem 2.1.52 b d

A. $(2, -3)$; minimum is -3

B. $(2, -3)$; maximum is -3

C. $(-2, -19)$; maximum is -19

D. $(-2, -19)$; minimum is -19

E. None of the above

10. Problem 2.1.66 a b

- A. a: $(-4, 0)$ and $(4, 0)$ b: $(0, 16)$
- B. a: $(-4, 0)$ b: $(0, 16)$
- C. a: $(0, 0)$ b: $(0, 16)$
- D. a: $(4, 0)$ b: $(0, 16)$
- E. None of the above

11. Problem 2.1.70 c

- A. $(2, -25)$
- B. $(2, 25)$
- C. $(-2, -39)$
- D. $(-2, 39)$
- E. None of the above

12. Problem 2.1.78

- A. $f(x) = 2(x-1)^2 - 8$
- B. $f(x) = 2(x+1) - 8$
- C. $f(x) = 2(x+1)^2 - 8$
- D. $f(x) = 2(x-1) + 8$
- E. None of the above

For number 13, find the linear function that satisfies the given conditions.

13. Slope is $\frac{-3}{5}$ and passes through $(1, 4)$.

- A. $f(x) = \frac{-3}{5}(x+1) + 4$
- B. $f(x) = \frac{-3}{5}(x-1) - 4$
- C. $f(x) = \frac{-3}{5}(x-1) + 4$
- D. $f(x) = \frac{-3}{5}(x+1) - 4$
- E. None of the above

14. Suppose that the manufacturer of office chairs has found that, when the unit price is p dollars, the revenue R (in dollars) generated is $R(p) = -4p^2 + 400p$. What unit price for the chairs should be established to maximize the revenue? What would the maximum revenue be?

- A. \$4 \$4,000
- B. \$50 \$17,500
- C. \$50 \$10,000
- D. \$50 \$20,000

15. Sam has 400 yards of fencing available and wants to enclose a rectangular area. Express the area A of the rectangle as a function of the width (w) of the rectangle.

- A. $A(w) = w(200 - w)$
- B. $A(w) = w(200 + w)$
- C. $A(w) = w(200 - \ell)$
- D. $A(w) = w^2$