

# Homework 4

This needs to be turned in by: July 22, at the beginning of class. Please write your work and answers on a separate sheet of paper and box your final answers. Don't forget your name.

1. Study Guide, p. 21 # 5

2. Study Guide, p. 22 # 1

3. Study Guide, p. 22 # 2 D

4. For each of the following, find the difference quotient:

$$\frac{f(x+h) - f(x)}{h}$$

(a)  $f(x) = 3 - 7x$

(b)  $f(x) = 5x^2 - 2$

(c)  $f(x) = 9 - 2x - x^2$

5. Study Guide, p. 23 # 4

6. Study Guide, p. 24 # 2 D

7. Determine if the functions below are even, odd, or neither:

(a)  $f(x) = 2x + 9$

(b)  $f(x) = x^4 - x^6$

(c)  $f(x) = \frac{x^3+x^7}{x^4}$

(d)  $f(x) = x^2 - x$

8. Find what translations have happened to  $f(x)$ :

(a)  $g(x) = -f(x - 2) + 7$

(b)  $g(x) = 12f(x + 3)$

(c)  $g(x) = 3f(9x) - 2$

(d)  $g(x) = -2f(-x)$

(e)  $g(x) = 2f(-x) + 10$

9. Study Guide, p. 27 # 7 A and B

10. Study Guide, p. 30 # 1 A and D

11. Find the equation of the line in point-slope form and standard form of:

(a) The line containing the points  $(-3, -6)$  and  $(-8, 14)$

(b) The line containing the points  $(0, 5)$  and  $(-2, 4)$

(c) The line with slope 2 passing through (4,7)

12. Find the equation of a line in slope intercept form:

(a) The line containing the points (-3, -6) and (-8,14)

(b) The line containing the points (0,5) and (-2,4)

(c) The line with slope 2 passing through (4,7)

(d) The line containing the points (0,3) with slope 5

13. Find the equation of the line that passes through the point (8,11) and:

(a) is parallel to the line with equation  $7x - 15y - 119 = 0$

(b) is perpendicular to the line with equation  $7x - 15y - 119 = 0$

(c) is perpendicular to the line with equation  $9x + 5y - 10 = 0$

14. Find the equation of the line that passes through the point (2,3) and is parallel to the line with equation  $9x + 5y = 10$ .

15. Study Guide, p.31 # 5

16. Study Guide, p. 31 # 6

17. Study Guide, p. 33 # 1 B, C, E, G, H, I, J

18. Study Guide, p. 34 # 2

19. Study Guide, p. 35 # 6

20. Study Guide, p. 36 # 9 A and B