The Weekly Rigor

No. 218 "A mathematician is a machine for turning coffee into theorems." August 25, 2018

20 Problems in Function Notation and Classification

(Part 1)

PROBLEMS

1. If $f(x) = 2x - 3$, find the following:

a. $f(-2)$ b. $f(7)$ c. $f(-4)$

2. If $h(x) = x^2 + 5x - 3$, find the following:

a. $h(-3)$ b. $h(5)$ c. $h(1)$

3. If $j(x) = 5x + 2$, what is the value of *x* when $j(x) = 12$?

4. If $g(x) = \frac{16}{x}$, what is the value of *x* when $g(x) = 2$?

5. Translate the following into coordinate points:

$$f(-1) = 3$$

6. Translate the following into coordinate points:

$$h(2) = 8$$

For problems 7-20, algebraically determine whether the function is even, odd, or neither.

7. $f(x) = x^3$

8. $f(x) = x^3 + 1$

9. $f(x) = x^2 + x$

10. $f(x) = x^2 + 10$

11. $f(x) = x^3 + 4x$

12. $f(x) = -x^3 + 5x - 2$

13. $f(x) = \sqrt{x^4 - x^2} + 4$

14. $f(x) = x^8 + x^7$

15. $f(x) = |x| + 4$

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

17. $f(x) = \sqrt[3]{x}$

18. $f(x) = x\sqrt{x^2 - 1}$

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

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