Math 2143 - Brief Calculus with Applications
Discussion Board Week 7 - Due 2021.07.25

For each of the following linear functions, use the average value formula to compute the average value of the function over the given interval. Compare this result with the function evaluated at the midpoint of the interval.

1. $f(x) = 3x - 1$ on $[2, 4]$

2. $f(x) = 2x + 4$ on $[-1, 3]$

3. $f(x) = -2x + 3$ on $[0, 4]$

4. $f(x) = -3x + 4$ on $[-2, 1]$

5. $f(x) = -2x + 3$ on $[-1, 1]$

6. $f(x) = \frac{1}{3}x - 2$ on $[6, 9]$

7. $f(x) = \frac{1}{2}x - 1$ on $[4, 8]$

8. $f(x) = \frac{1}{10}x + 4$ on $[5, 10]$

9. $f(x) = 2x - 3$ on $[5, 10]$

10. $f(x) = 2x - 1$ on $[1, 2]$

11. $f(x) = 5x - 3$ on $[2, 3]$

12. $f(x) = 6x + 2$ on $[-2, 1]$

13. $f(x) = -3x + 6$ on $[2, 4]$

14. $f(x) = -4x + 2$ on $[1, 5]$

15. $f(x) = 3x - 4$ on $[-2, 2]$

16. $f(x) = 5x - 6$ on $[-2, 1]$

17. $f(x) = \frac{3}{5}x + 1$ on $[5, 7]$

18. $f(x) = \frac{3}{7}x - 2$ on $[-1, 2]$

19. $f(x) = -\frac{1}{3}x + 1$ on $[-3, -2]$

20. $f(x) = -\frac{8}{3}x + 12$ on $[-2, 0]$

21. $f(x) = \frac{6}{7}x + 4$ on $[-2, 2]$

22. $f(x) = \dfrac{2}{5}x - 3$ on $[1, 5]$

23. $f(x) = \dfrac{4}{7}x - 3$ on $[-2, 5]$

24. $f(x) = -3x + \dfrac{3}{4}$ on $[-5, -2]$

25. $f(x) = 2x - \dfrac{5}{4}$ on $[-3, 0]$