

Math 134 Managerial Calculus

Homework 18 Spring 2021

Due May 5, 2021

In problems #1-3, find the area of the region bounded below by the graph of each function and above by the x-axis from $x = a$ to $x = b$.

1.

$$f(x) = x^2 - 9; a = -3, b = 3$$

2.

$$f(x) = x^3; a = -2, b = 0$$

3.

$$f(x) = x - \sqrt{x}; a = 0, b = 1$$

In problems #4-6, find the area of the region bounded by the function f above, g below, and the vertical lines $x = a$ and $x = b$.

4.

$$f(x) = x + 3, g(x) = x^2 - 4; a = -2, b = 1$$

5.

$$f(x) = x^2, g(x) = -\frac{1}{x^2}; a = 1, b = 2$$

6.

$$f(x) = e^{2x}, g(x) = x; a = -1, b = 1$$

In problems #7-9, find the area of the region bounded by the graph of the function f and the x-axis.

7.

$$f(x) = x^2 - 2x - 3$$

8.

$$f(x) = x^2 + x - 6$$

9.

$$f(x) = x^3 - x^2$$

In problems #10-12, find the area of the region completely enclosed by the graphs of the functions f and g , where $f > g$ in the interval.

10.

$$f(x) = -x^2 + 4x, \text{ and } g(x) = 2x - 8$$

11.

$$f(x) = \sqrt{x}, \text{ and } g(x) = x^2$$

12.

$$f(x) = x, \text{ and } g(x) = x^{\frac{3}{2}}$$