Your goal is to know why you are doing what you are doing at each step of the way to the solution. Generally, writing down your work is essential to this task.

For each of the following functions $f(x)$ find the signed area between the graph of $f(x)$ and the x-axis and between the given values of a and b.

1. $f(x) = 17$; $a = 0$, and $b = 100$
2. $f(x) = x^{3/2}$; $a = 1$, and $b = 4$
3. $f(x) = \sin(x)$; $a = -\pi/6$, and $b = \pi/3$
4. $f(x) = e^x + 1$; $a = 0$, and $b = 1$

Find the following areas.

5. $A_0^3(x^2 + 1)$
6. $A_0^1(e^x)$
7. $A_0^{100}(17)$
8. $A_1^2(\frac{2}{x})$

Compute the following values.

9. $\displaystyle\int_1^2 (4x^5 + 2x + 2)\,\mathtt{d}x$
10. $\displaystyle\int_0^{100} (17)\,\mathtt{d}x$
11. $\displaystyle\int_1^4 \frac{1}{x^2} - 3x + 1\,\mathtt{d}x$
12. $\displaystyle\int_{-1}^1 e^x\ \mathtt{dx}$
13. $\displaystyle\int_1^3 \frac{1}{x}\ \mathtt{dx}$