1. A function $f(x)$ is graphed below. If $\int_{-4}^{4} f(x) d x=17.8$, what is $\int_{0}^{4} f(x) d x$ ?

2. Suppose $f$ is a function for which $\int_{2}^{5} f(x) d x=4$ and $\int_{2}^{8} f(x) d x=9$. Find $\int_{8}^{5} 7 f(x) d x$.
3. Write the limit $\lim _{n \rightarrow \infty} \sum_{k=1}^{n} \sin \left(\sqrt{\frac{\pi k}{n}}\right) \frac{\pi}{n}$ as a definite integral.
4. Write $\int_{2}^{5} \ln (x) d x$ as a limit of Riemann sums (such as in problem 3 above).
5. A function $f(x)$ is graphed below. If $\int_{-4}^{4} f(x) d x=22.6$, what is $\int_{0}^{4} f(x) d x$ ?

6. Suppose $f$ and $g$ are functions for which $\int_{0}^{5} f(x) d x=3, \int_{0}^{2} 3 g(x) d x=12$, and $\int_{2}^{5} g(x) d x=-1$. Find $\int_{0}^{5} 3 f(x)-g(x) d x$.
7. $\lim _{n \rightarrow \infty} \sum_{k=1}^{n} \frac{1}{1+(2+7 k / n)^{2}} \frac{7}{n}$ as a definite integral.
8. Write $\int_{3}^{4} \sin (x) d x$ as a limit of Riemann sums (such as in problem 3 above).
9. A function $f(x)$ is graphed below. If $\int_{-4}^{4} f(x) d x=17.8$, what is $\int_{0}^{4} f(x) d x$ ?

10. Suppose $f$ is a function for which $\int_{2}^{5} f(x) d x=4$ and $\int_{2}^{8} f(x) d x=9$. Find $\int_{8}^{5} 7 f(x) d x$.
11. Write the limit $\lim _{n \rightarrow \infty} \sum_{k=1}^{n} \sin \left(\sqrt{\frac{\pi k}{n}}\right) \frac{\pi}{n}$ as a definite integral.
12. Write $\int_{0}^{5} e^{x} d x$ as a limit of Riemann sums (such as in problem 3 above).
13. A function $f(x)$ is graphed below. If $\int_{-4}^{4} f(x) d x=22.6$, what is $\int_{0}^{4} f(x) d x$ ?

14. Suppose $f$ and $g$ are functions for which $\int_{0}^{5} f(x) d x=3, \int_{0}^{2} 3 g(x) d x=12$, and $\int_{2}^{5} g(x) d x=-1$. Find $\int_{0}^{5} 3 f(x)-g(x) d x$.
15. $\lim _{n \rightarrow \infty} \sum_{k=1}^{n} \frac{1}{1+(7 k / n)^{2}} \frac{7}{n}$ as a definite integral.
16. Write $\int_{3}^{4} \sqrt{x} d x$ as a limit of Riemann sums (such as in problem 3 above).
