For exercises 1–20, evaluate the following integrals.

1.
$$\int \sin(x) \cos^2(x) \, \mathrm{d}x$$

7.
$$\int \sin^5(x) \sec^6(x) \, \mathrm{d}x$$

$$2. \quad \int \sin^3(x) \cos^4(x) \, \mathrm{d}x$$

8.
$$\int \csc^4(x) \cot(x) \, \mathrm{d}x$$

3.
$$\int \sin^2(x) \, \mathrm{d}x$$

9.
$$\int \csc^8(x) \cot^2(x) dx$$

4.
$$\int \cos^3(x) \sin^4(x) \, \mathrm{d}x$$

10.
$$\int \cot^3(x) \csc^4(x) dx$$

5.
$$\int \sec^2(x) \tan(x) \, \mathrm{d}x$$

11.
$$\int \sec^5(x) \, \mathrm{d}x$$

6.
$$\int \sec^3(x) \tan^3(x) \, \mathrm{d}x$$

12.
$$\int \sin^4(x) \, \mathrm{d}x$$

13.
$$\int \csc^3(x) \, \mathrm{d}x$$

17. $\int \cos(11x)\cos(2x)\,\mathrm{d}x$

14.
$$\int \tan^3(x) \, \mathrm{d}x$$

18. $\int \sin(13x)\sin(9x)\,\mathrm{d}x$

15.
$$\int \sec^4(x) \, \mathrm{d}x$$

 $19. \quad \int \cos(11x)\sin(3x)\,\mathrm{d}x$

16.
$$\int \tan^4(x) \, \mathrm{d}x$$

20. $\int (\sin(x)\cos^2(8x) - \sin^2(8x)\sin(x)) dx$