

Directions: Evaluate the definite integrals. Show your work on separate paper. Use your calculator to *check* your answer.

1.
$$\int_{-3}^0 (x^2 - 4x + 7) dx$$

2.
$$\int_{-\frac{\pi}{4}}^{\frac{\pi}{4}} \cos x dx$$

3.
$$\int_1^e \frac{2x^2 - x}{x^3} dx$$

4.
$$\int_0^{\pi} (x - \sec x \tan x) dx$$

5.
$$\int_1^4 \frac{1}{x^2 \sqrt{x}} dx$$

6.
$$\int_0^{\frac{\pi}{4}} \frac{\sec^2 x}{1 + \tan^2 x} dx$$

7.
$$\int_{\ln 2}^3 5e^x dx$$

8.
$$\int_0^1 \frac{2}{x+1} dx$$

9.
$$\int_1^4 \left(\frac{3}{\sqrt{x}} - 5\sqrt{x} - x^{-\frac{3}{2}} \right) dx$$

10.
$$\int_1^2 e^{\ln+2} dx$$

11.
$$\int_{\frac{\pi}{4}}^{\frac{\pi}{2}} (1 + \sin x) dx$$

12.
$$\int_0^1 \frac{e^x}{1+e^x} dx$$

13.
$$\int_0^1 \frac{dx}{\sqrt{3x+1}}$$

14.
$$\int_{-1}^1 \pi \cos(x+2) dx$$

15.
$$\int_1^{\sqrt{5}} \frac{2x}{\sqrt{x^2-1}} dx$$

16.
$$\int_{-\frac{3\pi}{4}}^{-\frac{\pi}{4}} \sin x \cos x dx$$

17.
$$\int_0^{\frac{\pi}{4}} \sqrt{\tan x} \sec^2 x dx$$

18.
$$\int_{-1}^1 \frac{x^2 dx}{\sqrt{x^3+9}}$$

19.
$$\int_{-1}^0 6t^2(t^3+1)^{19} dt$$

20.
$$\int_0^{\sqrt{e-1}} \frac{x}{x^2+1} dx$$

21.
$$\int_0^{\ln 5} e^x(3-4e^x) dx$$

22.
$$\int_{-\ln 3}^{\ln 3} \frac{e^x}{e^x+4} dx$$

23.
$$\int_0^{\sqrt{\pi}} 3x \sin(x^2) dx$$

24.
$$\int_0^{-1} \frac{x}{x^2+5} dx$$

25.
$$\int_0^1 \frac{x}{x+1} dx$$

26.
$$\int_0^{\ln 2} e^{-3x} dx$$

27.
$$\int_0^{\frac{\pi}{2}} \sin^3(3x) \cos(3x) dx$$

28.
$$\int_0^1 \frac{2x}{1+x^2} dx$$

29.
$$\int_{-1}^0 x\sqrt{1+x} dx$$

30.
$$\int_0^3 \frac{2dx}{(x+1)^2}$$

31.
$$\int_1^3 \frac{x+2}{\sqrt{x^2+4x+7}} dx$$

32.
$$\int_0^{\frac{\pi}{2}} \cos x e^{\sin x} dx$$

33.
$$\int_e^{e^4} \frac{dx}{x\sqrt{\ln x}}$$

34.
$$\int_0^{\frac{\pi}{8}} \sin 4x dx$$