Part A   Complete all 5 problems in section A below.

$\int x^2 \cos x\,dx$	$\int \cos^3 x \sin^7 x\,dx$
$\int \dfrac{dx}{a^2 + x^2}$	$\int \dfrac{-19x^2 + 50x - 25}{x^2(3x-5)}\,dx$
$\int x^5 \ln x\,dx$	

Part B   You will receive points for the best 5 problems you complete in this section.   Each problem is worth 10 points plus, when done correctly, any bonus you see next to them, such as [+2] or [+3].

$$\int \frac{dx}{\left(x^2+4\right)^{3/2}} \qquad \int \frac{dx}{x\sqrt{x^2-16}} \quad [+2]\ \int \frac{\sqrt{x^2-25}}{x}\,dx$$

$$\int \tan^3 x \sec^3 x\,dx \quad [+3]\int e^{3x}\cos 4x\,dx \quad [+3]\int \sin^6 x\,dx \quad \int \cos^4 x\,dx$$

$$\int \frac{4x-6}{x^2+9}\,dx \qquad \int \frac{2x+4}{x^3-2x^2}\,dx \quad [+1]\ \int \frac{dx}{(x^2+4)(x+1)(x+4)}$$

$$[+1]\int \frac{dx}{(x^2+1)(x+1)(x+4)} \qquad \int \frac{dx}{(x+1)(x+4)(x+5)} \qquad [+2]\ \int \frac{dx}{(x^2+4)^2(x+1)(x+2)}$$