

Crack the Code

Maclaurin Series

A	Find the coefficient of the x^4 term in the Maclaurin series expansion of $\cos(2x)$ $\frac{2}{3}$	B	Find the coefficient of the x term in the Maclaurin series expansion of $\ln(1 + 3x)$ 3
C	Find the coefficient of the x^5 term in the Maclaurin series expansion of $\sin(5x)$ $\frac{625}{24}$	D	Find the coefficient of the x^6 term in the Maclaurin series expansion of e^{3x^2} $\frac{9}{2}$
E	Given that the coefficient of the fourth term in the Maclaurin series expansion of e^{px} is $\frac{32}{3}$, find the value of p . 4	F	Given that the coefficient of the x term in the Maclaurin series expansion of $\sin\left(\frac{qx}{4}\right)$ is $\frac{7}{4}$, find the value of q . 7
G	Use the Maclaurin series expansion for $\cos x$ to find an approximation for $\cos\left(\frac{\pi}{12}\right)$ correct to 4 decimal places. 0.9659	H	Use the Maclaurin series expansion for $\ln(1 + x)$ to find an approximation for $\ln 0.8$ correct to 4 decimal places. -0.2231
I	Use the Maclaurin series expansion of e^x to find an approximation for $\frac{1}{\sqrt{e^3}}$ to 4 decimal places. 0.2231	J	Find the coefficient of the x^6 term in the Maclaurin series expansion of $\sin^2\left(\frac{x}{3}\right)$ $\frac{2}{32805}$

To get the three-digit code, add all your answers together, multiply by 10 and round to the nearest integer. 462