

Name (IN CAPITAL LETTERS!):

CID:

Question 2.

Write down the power series for $\sin x$ and $(1 + x)^{-1/2}$ giving terms up to and including x^3 .

Hence express as a power series in x the function

$$\frac{1}{\sqrt{1 + \sin x}}$$

including all terms up to and including x^3 .

Make an intelligent guess as to for which values of x the infinite series converges.