Use Taylor’s Theorem with n = 2 to prove that the inequality 1 + x < ex is valid for all real numbers except x = 0

Se puede decir que la afirmación es verdadera.

What is the third term in the Taylor’s expansion of x 2 + x − 2 about the point 3.

Determine the first four nonzero terms in the series expansion about zero for

b. g(x) = (sin x)(cos x) and find an approximate value for g(0·0006)

What is the least number of terms required to compute π as 3·14 (rounded) using the series



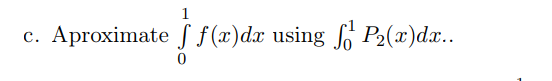
7. Find the second Taylor polynomial P2(x) for the function e x cos x about x0 = 0

1. Use P2(0·5) to approximate f(0·5). Find an upper bound for error |f(0·5) − P2(0·5)| using the error formula, and compare it to the actual error.

1.

Sea

B) Find a bound for the error |f(x) − P2(x)| in using P2(x) to approximate f(x) on the interval [0, 1].



D. Find an upper bound for the error in (c) using R 1 0 |R2(x)|dx, and compare the bound to the actual error

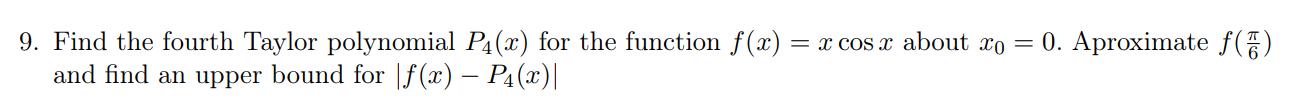
8. Find the fourth Taylor polynomial P4(x) for the function xex 2 about x0 = 0.

1. Find an upper bound for |f(x) − P4(x)|, for 0 ≤ x ≤ 0·4.











Use a Taylor polynomial about e to approximate ln 3, to an accuracy of 10−4 .