

3.

$$f(x) = \arcsin x \quad -1 \leq x \leq 1$$

(a) Determine the first two non-zero terms, in ascending powers of x , of the Maclaurin series for $f(x)$, giving each coefficient in its simplest form.

(4)

(b) Substitute $x = \frac{1}{2}$ into the answer to part (a) and hence find an approximate value for π

Give your answer in the form $\frac{p}{q}$ where p and q are integers to be determined.

(2)