3.

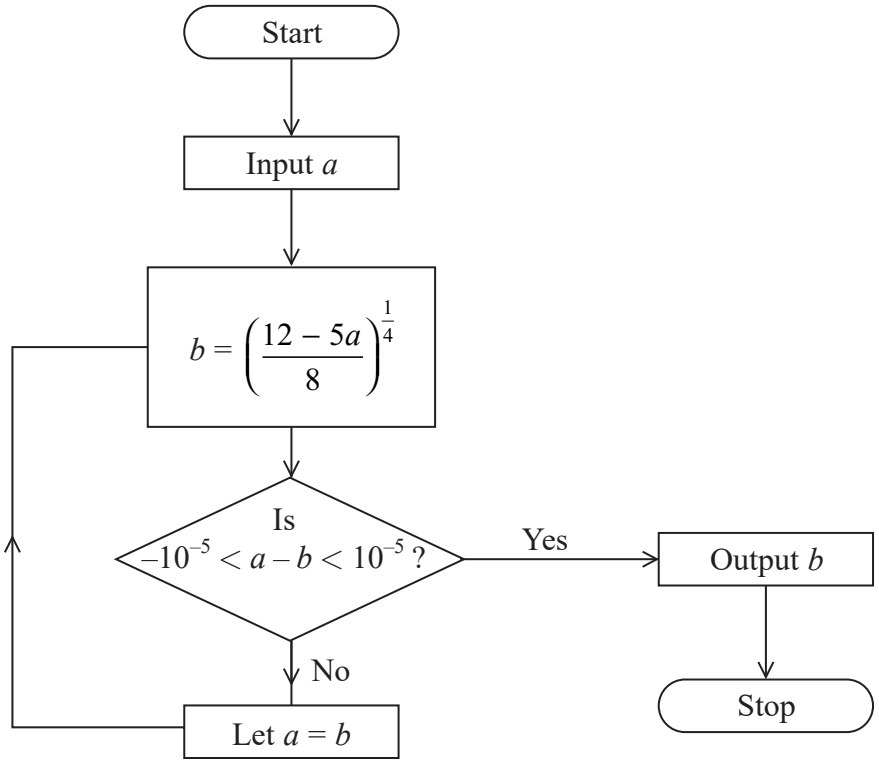


Figure 2

An algorithm for finding the positive real root of the equation $8x^4 + 5x - 12 = 0$ is described by the flow chart shown in Figure 2.

(a) Use the flow chart, with $a = 1$, to complete the table in the answer book, stating values to at least 6 decimal places. Give the final output correct to 5 decimal places.

(4)

Given that the value of the input a is a non-negative real number,

(b) determine the set of values for a that **cannot** be used to find the positive real root of $8x^4 + 5x - 12 = 0$ using this flow chart.

(2)

(Total 6 marks)