3.

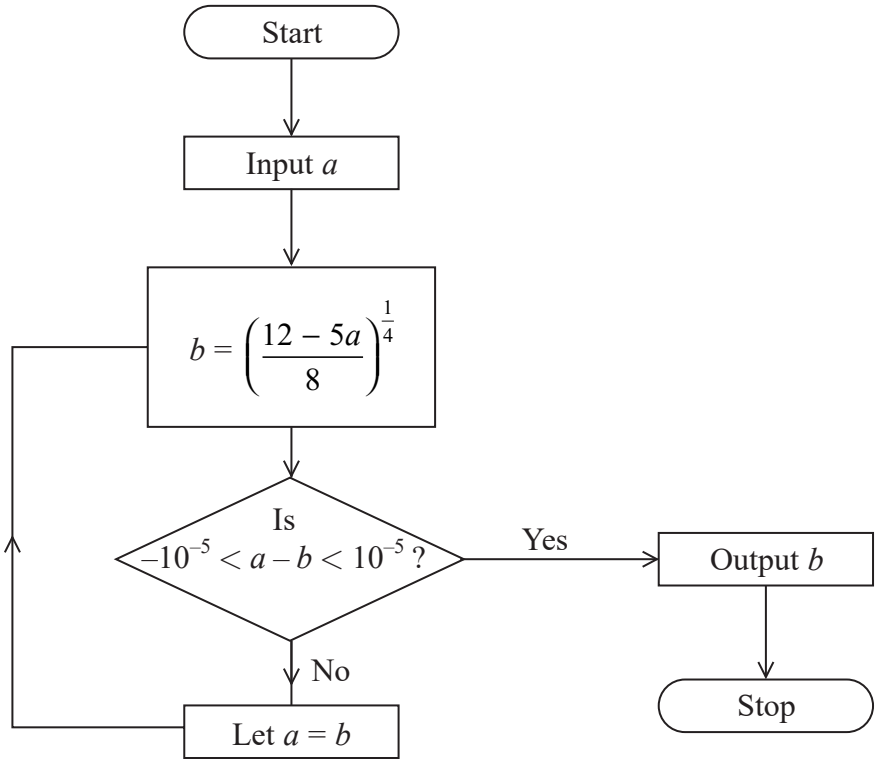

Figure 2

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)

Leave blank

3. *You may not need to use all the rows in this table.*
You should write your final output in the box provided at the bottom of this page.

a	b	Is $-10^{-5} < a - b < 10^{-5}$?

Final output	

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

Leave blank

Question 3 continued

Q3

(Total 6 marks)