10. **In this question you must show all stages of your working.**
Solutions relying on calculator technology are not acceptable.

$(k-1)x^6 + 4x^3 + (k-4) = 0$ where k is a constant

(a) Find the exact solutions to the given equation for $k = 4.5$

(3)

(b) Find the set of possible values of k for which the given equation has no real roots.

(4)

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Question 10 continued

Question 10 continued

(Total for Question 10 is 7 marks)

TOTAL FOR PAPER IS 75 MARKS

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