Directions: Please answer the following question in complete sentences. Be sure to label all geometric objects in any illustrations. I will accept an answer in a scanned image format, as a pdf, or sent from your awesome picture phone.

Question: For what value of a will four of the five real roots of $2x^5 - 9x^4 - 13x^3 + 39x^2 + 11x - a$ be shared by the polynomial $x^4 - 3x^3 - 11x^2 + 3x + 10$?