

$$y = 3x^5 - 15x^4 - 25x^3 + 105x^2 + 155x - 85$$

$$y' = 15x^4 - 60x^3 - 75x^2 + 210x + 155 \quad | \cdot \frac{1}{5}$$

$$f_0(x) = 3x^5 - 15x^4 - 25x^3 + 105x^2 + 155x - 85$$

$$f_1(x) = 3x^4 - 12x^3 - 15x^2 + 42x + 31$$

$$\begin{array}{r} 3x^5 - 15x^4 - 25x^3 + 105x^2 + 155x - 85 \\ - (3x^5 - 12x^4 - 15x^3 + 42x^2 + 31x) \\ \hline 0 - 3x^4 - 10x^3 + 63x^2 + 124x - 85 \end{array} \quad \begin{array}{r} 3x^4 - 12x^3 - 15x^2 + 42x + 31 \\ | \cdot (x-1) \\ \hline 3x^4 - 3x^3 - 15x^2 + 42x + 31 \\ - (3x^4 - 3x^3 - 15x^2 + 42x + 31) \\ \hline 0 \end{array}$$

$$0 - 3x^4 - 10x^3 + 63x^2 + 124x - 85$$

$$\begin{array}{r} - 3x^4 + 12x^3 + 15x^2 - 42x - 31 \\ \hline 0 - 22x^3 + 48x^2 + 166x - 54 \quad | \cdot (-1) \end{array}$$

$$f_2(x) = 22x^3 - 48x^2 - 166x + 54 \quad \left| f_1(x) \cdot \frac{2^2}{3} = 22x^4 - 88x^3 - 110x^2 + 308x + \frac{682}{3} \right.$$

$$\begin{array}{r} f_1(x) \cdot 22 = 66x^5 - 264x^4 - 330x^3 + 924x^2 + 682x \\ 22x^4 - 88x^3 - 110x^2 + 308x + \frac{682}{3} \\ - (66x^5 - 264x^4 - 330x^3 + 924x^2 + 682x) \\ \hline 66x^4 - 144x^3 - 498x^2 + 162x \end{array} \quad \begin{array}{r} 22x^3 - 48x^2 - 166x + 54 \\ | \cdot (3x - \frac{60}{11}) \\ \hline 66x^4 - 144x^3 - 498x^2 + 162x \end{array}$$

$$0 - 120x^3 + 168x^2 + 762x + 682$$

$$\begin{array}{r} 120x^3 + \frac{2880}{11}x^2 + \frac{9960}{11}x - \frac{3240}{11} \\ \hline 0 - \frac{1032}{11}x^2 - \frac{1572}{11}x + \frac{10742}{11} \quad | \cdot (-11) \end{array}$$

$$f_3(x) = 1032x^2 + 1578x - 10742 \quad \left| f_2(x) \cdot \frac{1032}{2} = \right.$$

$$\begin{array}{r|l} \cancel{f} \quad 22704x^3 - 49536x^2 - 171312x + 55728 & 1032x^2 + 1578x - 10742 \\ \hline 22704x^3 + 31716x^2 - 236324x & 22x - \frac{7021}{86} \end{array}$$

$$0 - 84252x^2 + 65012x + 55728$$

$$-84252x^2 - \frac{5539569}{43} + \frac{37709791}{43}$$

$$0 + \frac{8335085}{43} - \frac{35313487}{43} \Bigg| \cdot \left(-\frac{43}{1}\right)$$

$$f_4(x) = -8335085x + 35313487$$

$$f_3(x) \cdot 8335085 = 8601807720x^2 + 13152764130x - 89535483070$$

$$\begin{array}{r|l} 8601807720x^2 + 13152764130x - 89535483070 & -8335085x + 35313487 \\ \hline 8601807720x^2 - 36443518584x & -1032x + \frac{17821158}{2995} \end{array}$$

$$0 + 49596282714x - 89535483070$$

$$49596282714x + \frac{829327231357946}{2995}$$

$$0 - \frac{89748600315296}{2995} \Bigg| \cdot \left(\frac{2995}{89748600315296}\right)$$

$$f_5(x) = 1.$$

$$f_0(x) = 3x^5 - 15x^4 - 25x^3 + 105x^2 + 155x - 85$$

$$f_1(x) = 15x^4 - 60x^3 - 75x^2 + 210x + 155 \mid \cdot \frac{1}{5}$$

$$f_2(x) = 22x^3 - 48x^2 - 166x + 54 \mid \cdot \frac{1}{2}$$

$$f_3(x) = 1032x^2 + 1578x - 10742 \mid \cdot \frac{1}{2}$$

$$f_4(x) = -8335085x + 35313487 \mid \cdot \frac{1}{2783}$$

$$f_5(x) = 1$$

$$f_0(x) = 3x^5 - 15x^4 - 25x^3 + 105x^2 + 155x - 85$$

$$f_1(x) = 3x^4 - 12x^3 - 15x^2 + 42x + 31$$

$$f_2(x) = 11x^3 - 24x^2 - 83x + 27$$

$$f_3(x) = 516x^2 + 789x - 5371$$

$$f_4(x) = -2995x + 12689$$

$$f_5(x) = 1$$

	$-\infty$																		$+\infty$
k_0	-	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8		
f_0	-	-	-	-	-	-	-	-	-	+	+	+	-	+	+	+	+		
f_1	+	+	+	+	+	+	+	-	+	+	+	-	-	+	+	+	+		
f_2	-	-	-	-	-	-	+	+	+	-	-	-	+	+	+	+	+		
f_3	+	+	+	+	-	-	-	-	-	-	-	+	+	+	+	+	+		
f_4	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-	-		
f_5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
w	4	4	4	4	4	4	4	4	4	3	3	3	2	1	1	1	1		

Ответ: 36 элементарных корней
 $(0; 1) \cup (3; 4) \cup (4; 5)$