

Discriminant of $\Delta_R^{(1)}$ with respect to z

$$\Delta_R^{(2)} = q^4 (2 - q)^2 (1 + p - q)^2 (4 + p - q)^2 (5 + p - q)^2 \\ (8 + 2p - q)^2 (4p^3 + 27q^2) (64 + 16p - 48q - 8pq + 13q^2 + pq^2 - q^3)^2 \\ (8 + 10p + 2p^2 - 19q - 10pq - p^2q + 8q^2 + 2pq^2 - q^3)^2 (T(p, q))^3$$

$$T = (-5570035712p^6 - 3120562176p^7 + 8611430400p^8 + 7208304640p^9 - \\ 2657639424p^{10} - 4849396224p^{11} - 1396431808p^{12} + 632055360p^{13} + \\ 603260160p^{14} + 208389376p^{15} + 38988672p^{16} + 3931008p^{17} + 165120p^{18} + 768p^{19} + \\ 576p^{20} + 64p^{21} - 133680857088p^4q - 108313706496p^5q + 198923255808p^6q + \\ 229745098752p^7q - 35615121408p^8q - 142920013824p^9q - 58100094720p^{10}q + \\ 13042390080p^{11}q + 19614615744p^{12}q + 7852180224p^{13}q + 1644239616p^{14}q + \\ 182821248p^{15}q + 7773312p^{16}q - 177408p^{17}q + 13824p^{18}q + 5184p^{19}q + \\ 192p^{20}q - 1069446856704p^2q^2 - 1133871366144p^3q^2 + 1617155850240p^4q^2 + \\ 2415088631808p^5q^2 - 200359673856p^6q^2 - 1651848806400p^7q^2 - \\ 764435235840p^8q^2 + 158160400896p^9q^2 + 257060343696p^{10}q^2 + \\ 90747153264p^{11}q^2 + 8920854996p^{12}q^2 - 3079222176p^{13}q^2 - 1188833520p^{14}q^2 - \\ 173773440p^{15}q^2 - 11329608p^{16}q^2 - 173280p^{17}q^2 - 2496p^{18}q^2 - 2160p^{19}q^2 - \\ 108p^{20}q^2 - 2851858284544q^3 - 3736621547520pq^3 + 5250597519360p^2q^3 + \\ 9102344323072p^3q^3 - 2204221046784p^4q^3 - 9720722620416p^5q^3 - \\ 4808116633600p^6q^3 + 851332521984p^7q^3 + 1459742315136p^8q^3 + \\ 368339391776p^9q^3 - 71783428272p^{10}q^3 - 56781256668p^{11}q^3 - 10317236480p^{12}q^3 + \\ 214552080p^{13}q^3 + 346457184p^{14}q^3 + 49122360p^{15}q^3 + 2209152p^{16}q^3 - \\ 34512p^{17}q^3 - 176p^{18}q^3 + 324p^{19}q^3 + 7489349222400q^4 + 9265049763840pq^4 - \\ 18567810514944p^2q^4 - 39561619046400p^3q^4 - 21576414265344p^4q^4 + \\ 2287675932672p^5q^4 + 6169547427840p^6q^4 + 1378934644224p^7q^4 - \\ 675312510576p^8q^4 - 421649916432p^9q^4 - 79412602863p^{10}q^4 - \\ 1638164184p^{11}q^4 + 920168268p^{12}q^4 - 122086824p^{13}q^4 - 61804266p^{14}q^4 - \\ 6199080p^{15}q^4 - 109092p^{16}q^4 + 5688p^{17}q^4 - 351p^{18}q^4 - 33415281770496q^5 - \\ 75215287615488pq^5 - 47390326259712p^2q^5 + 9813541257216p^3q^5 + \\ 22374757367808p^4q^5 + 6837299146752p^5q^5 - 1183922514432p^6q^5 - \\ 689291078400p^7q^5 + 257391749640p^8q^5 + 222283503450p^9q^5 + \\ 60144815208p^{10}q^5 + 8031066768p^{11}q^5 + 581641080p^{12}q^5 + 43102068p^{13}q^5 + \\ 5376312p^{14}q^5 + 316416p^{15}q^5 + 480p^{16}q^5 + 162p^{17}q^5 + 61250255978496q^6 + \\ 143839293603840pq^6 + 126541073154048p^2q^6 + 45408484392960p^3q^6 - \\ 1198721789952p^4q^6 - 6244058288640p^5q^6 - 2117630711392p^6q^6 - \\ 519738993792p^7q^6 - 218951447415p^8q^6 - 83427836336p^9q^6 - 18353150448p^{10}q^6 - \\ 2161633272p^{11}q^6 - 120317590p^{12}q^6 - 2570592p^{13}q^6 - 154056p^{14}q^6 - 10936p^{15}q^6 - \\ 27p^{16}q^6 - 56016404742144q^7 - 124082174164992pq^7 - 108838634127360p^2q^7 - \\ 44884238376960p^3q^7 - 5251302964992p^4q^7 + 3125042814912p^5q^7 + \\ 1713175929312p^6q^7 + 464848318608p^7q^7 + 100319245248p^8q^7 + \\ 19403530032p^9q^7 + 2758533192p^{10}q^7 + 216387504p^{11}q^7 + 5440080p^{12}q^7 - \\ 73584p^{13}q^7 + 9864p^{14}q^7 + 30408444149760q^8 + 59806912610304pq^8 + \\ 47230904097792p^2q^8 + 17651789392896p^3q^8 + 1676998420320p^4q^8 - \\ 1255535514432p^5q^8 - 612974472990p^6q^8 - 140508540000p^7q^8 - \\ 20760550248p^8q^8 - 2272958904p^9q^8 - 179835078p^{10}q^8 - 6945240p^{11}q^8 + \\ 26172p^{12}q^8 - 3456p^{13}q^8 - 10981582266368q^9 - 17759541639168pq^9 - \\ 11371246394112p^2q^9 - 3159777274944p^3q^9 + 97695318480p^4q^9 +$$

$$\begin{aligned}
& 359\,548\,240\,908\,p^5q^9 + 120\,738\,883\,088\,p^6q^9 + 20\,386\,398\,432\,p^7q^9 + 1\,918\,642\,200\,p^8q^9 + \\
& 101\,882\,148\,p^9q^9 + 3\,313\,752\,p^{10}q^9 + 54\,192\,p^{11}q^9 + 432\,p^{12}q^9 + 2\,917\,656\,216\,576\,q^{10} + \\
& 3\,462\,563\,450\,880\,p\,q^{10} + 1\,455\,391\,430\,352\,p^2q^{10} + 119\,403\,032\,976\,p^3q^{10} - \\
& 129\,479\,605\,938\,p^4q^{10} - 61\,110\,119\,376\,p^5q^{10} - 12\,900\,267\,984\,p^6q^{10} - 1\,384\,797\,096\,p^7q^{10} - \\
& 62\,024\,754\,p^8q^{10} - 443\,232\,p^9q^{10} - 37\,104\,p^{10}q^{10} - 621\,594\,011\,520\,q^{11} - \\
& 471\,991\,548\,384\,p\,q^{11} - 58\,443\,871\,344\,p^2q^{11} + 49\,270\,963\,740\,p^3q^{11} + 24\,463\,441\,536\,p^4q^{11} + \\
& 5\,440\,961\,808\,p^5q^{11} + 655\,372\,056\,p^6q^{11} + 33\,593\,664\,p^7q^{11} - 23\,520\,p^8q^{11} + \\
& 7920\,p^9q^{11} + 107\,556\,479\,696\,q^{12} + 45\,846\,207\,120\,p\,q^{12} - 10\,823\,161\,011\,p^2q^{12} - \\
& 9\,081\,180\,680\,p^3q^{12} - 1\,961\,010\,804\,p^4q^{12} - 208\,227\,840\,p^5q^{12} - 11\,021\,888\,p^6q^{12} - \\
& 64\,128\,p^7q^{12} - 432\,p^8q^{12} - 13\,696\,470\,360\,q^{13} - 2\,200\,216\,374\,p\,q^{13} + 2\,255\,637\,960\,p^2q^{13} + \\
& 705\,296\,016\,p^3q^{13} + 61\,151\,856\,p^4q^{13} + 1\,485\,792\,p^5q^{13} + 38\,208\,p^6q^{13} + 1\,042\,774\,293\,q^{14} - \\
& 190\,649\,760\,p\,q^{14} - 211\,666\,704\,p^2q^{14} - 24\,378\,048\,p^3q^{14} + 97\,632\,p^4q^{14} - 7104\,p^5q^{14} - \\
& 21\,358\,464\,q^{15} + 38\,295\,216\,p\,q^{15} + 8\,818\,944\,p^2q^{15} - 13\,824\,p^3q^{15} + 576\,p^4q^{15} - \\
& 2\,848\,944\,q^{16} - 1\,848\,768\,p\,q^{16} - 13\,056\,p^2q^{16} + 167\,616\,q^{17} + 2304\,p\,q^{17} + 64\,q^{18} \Big) ;
\end{aligned}$$