

## sistemi di equazioni di secondo grado frazionarie

1	$\begin{cases} \frac{x+2y}{x-1} = 2 \\ 4(x-y)^2 = 22+x \end{cases}$	$(3; \frac{1}{2}) \quad (-6; -4)$
2	$\begin{cases} 2x - 2y = 3 \\ \frac{3}{x-1} - \frac{3}{2-x} = \frac{8}{y} \end{cases}$	$(\frac{1}{2}; -1) \quad (\frac{5}{2}; 1)$
3	$\begin{cases} 3x - y = 2 \\ \frac{3}{x-1} = \frac{1+2y-4}{1-y} \end{cases}$	$(-\frac{1}{3}; -3)$
4	$\begin{cases} \frac{x^2 - 3x + 2}{x-y} = y + 2 \\ \frac{2x + 3y}{x + 5y + 5} = 1 \end{cases}$	$(1; -2) \quad (\frac{13}{3}; -\frac{1}{3})$
5	$\begin{cases} \frac{1}{x+y} + \frac{x+y}{2} = \frac{3}{2} \\ \frac{1}{x} + \frac{1}{y} = \frac{1}{xy} \end{cases}$	<i>indeterminato</i>
6	$\begin{cases} \frac{3}{x-1} = 1 + \frac{5x+2y-4}{1-y} \\ 3x - y = 2 \end{cases}$	$(-\frac{1}{2}; -\frac{7}{2})$
7	$\begin{cases} \frac{1}{y} - \frac{1}{x} = \frac{2}{xy} \\ \frac{x}{y^2 + y + 4} = \frac{2}{x+1} \end{cases}$	$(3; 1) \quad (4; 2)$
8	$\begin{cases} \frac{1}{x+y} + \frac{x+y}{2} = \frac{3}{2} \\ \frac{1}{x} + \frac{1}{y} = \frac{1}{xy} \end{cases}$	<i>indeterminato</i>

9	$\begin{cases} \frac{x^2 - x}{y} = 4 - x \\ \frac{x + 2y}{x - y} = 4 \end{cases}$	(2; 1)
10	$\begin{cases} \frac{x + y}{x - y} = 2 \\ \frac{x^2}{x^2 + xy} = \frac{3}{4} \end{cases}$	<i>indeterminato</i>
11	$\begin{cases} \frac{1}{x} + \frac{2}{y} - \frac{x + y}{xy} = 1 \\ \frac{(x - 2)^2 + y}{(y - 1)^2 + x} = \frac{13}{2} \end{cases}$	$(\frac{1}{2}; 1)$ (10; 1)
12	$\begin{cases} 1 + \frac{xy}{x + 2y} = -\frac{2}{x + 2y} \\ \frac{7}{2}x - \frac{10}{3}y = \frac{1}{2} \end{cases}$	$(-2; -\frac{9}{4})$ $(-\frac{17}{21}; -1)$
13	$\begin{cases} \frac{x^2 - y^2}{xy} = -\frac{8}{3} \\ \frac{x + y}{x - 2y} = 0,4 \end{cases}$	<i>indeterminato</i>
14	$\begin{cases} \frac{x}{x + y} + \frac{y}{x + 2y} = \frac{9}{x^2 + 3xy + 2y^2} \\ (x - 2)^2 - (y - 1)^2 = (x + y)(x - y) - 3 \end{cases}$	(0; -3) $(\frac{21}{11}; \frac{9}{11})$
15	$\begin{cases} x(1 + x) - 4 = x^2 - 4 - y \\ \frac{5x(5y + 3)}{3(5x - 3)} = 1 \end{cases}$	$(-\frac{3}{5}; \frac{3}{5})$
16	$\begin{cases} \frac{1}{x + y} + \frac{x + y}{2} = \frac{3}{2} \\ \frac{1}{x} + \frac{1}{y} = \frac{1}{xy} \end{cases}$	<i>indeterminato</i>

17	$\begin{cases} \left(\frac{1}{x+y} - 1\right)(x-y+1) = 0 \\ (x-2)(x+y-4) = 0 \end{cases}$	$(2; -1) \quad (2; 3) \quad \left(\frac{3}{2}; \frac{5}{2}\right)$
18	$\begin{cases} 2(x-1) = 3(3-y) - x \\ \frac{x(y+2)}{x+1} = 2 \end{cases}$	$\left(\frac{2}{3}; 3\right) \quad \left(3; \frac{2}{3}\right)$
19	$\begin{cases} \frac{6x(x-1)+7}{x^2+y} = 6 \\ \frac{3x-y}{1+y} = -\frac{y-1}{y} \end{cases}$	$\left(\frac{1}{2}; \frac{2}{3}\right) \quad \left(\frac{2}{3}; \frac{1}{2}\right)$
20	$\begin{cases} x+y = 7 \\ \frac{1}{x} + \frac{1}{y} = -\frac{7}{30} \end{cases}$	$(-3; 10) \quad (10; -3)$
21	$\begin{cases} 4(1-x-y) - x^2 = y - x(x-1) \\ \frac{y^2+4xy}{y^2-xy-1} = 1 \end{cases}$	$\left(1; -\frac{1}{5}\right) \quad \left(-\frac{1}{5}; 1\right)$
22	$\begin{cases} \frac{1}{x} + \frac{1}{y} = 5 \\ 6xy = 1 \end{cases}$	$\left(\frac{1}{2}; \frac{1}{3}\right) \quad \left(\frac{1}{3}; \frac{1}{2}\right)$
23	$\begin{cases} \frac{1}{x} + \frac{1}{y} + \frac{1}{xy} = 11 \\ 6x + 6y = 5 \end{cases}$	$\left(\frac{1}{2}; \frac{1}{3}\right) \quad \left(\frac{1}{3}; \frac{1}{2}\right)$
24	$\begin{cases} \frac{x+y}{xy-1} = \frac{2}{x+y-3} \\ (x-y)(2x-2y+1) = 2(12-2xy-y) \end{cases}$	$(3; 1) \quad (1; 3)$
25	$\begin{cases} 2 - \frac{7}{xy} = \frac{xy-1}{6} \\ x+y = 5 \end{cases}$	$(2; 3) \quad (3; 2)$

26	$\begin{cases} \frac{11}{xy} - \frac{1}{x} - \frac{1}{y} = 1 \\ x(1-y) = \frac{30}{xy} \end{cases}$	(2; 3) (3; 2) (1; 5) (5; 1)
27	$\begin{cases} \frac{3(2-y-x^2)+1}{1-x} = 3x \\ \frac{9(x+2)(x-2)}{(1+3y)(1-3y)} = 1 \end{cases}$	$\left(\frac{1}{3}; 2\right) \left(2; \frac{1}{3}\right)$
28	$\begin{cases} x+y=8 \\ \frac{x^2+y^2}{xy} + 1 = \frac{312}{x} \left(\frac{1}{2y} - \frac{1}{3y}\right) \end{cases}$	(2; 6) (6; 2)
29	$\begin{cases} 3(y+1) + x(y+3) = 0 \\ \frac{(3x+5)(y+1)}{x+4} = -2 \end{cases}$	(3; -2) (-2; 3)
30	$\begin{cases} x(1-x) + y(1+2x) = 3 - x^2 \\ \frac{8x(2-3y)+3}{1-y} = 16 \end{cases}$	$\left(\frac{5}{4}; \frac{1}{2}\right) \left(\frac{1}{2}; \frac{5}{4}\right)$
31	$\begin{cases} x+y=9 \\ \frac{x^2+xy+y^2}{x^2-xy+y^2} = \frac{67}{39} \end{cases}$	(7; 2) (2; 7)
32	$\begin{cases} \frac{xy+y}{x} = x - \frac{1}{x} \\ y(xy-y) = 0 \end{cases}$	(-1; 0) (0; -1)
<b>sistemi simmetrici</b>		
33	$\begin{cases} x+y=1 \\ xy=-6 \end{cases}$	(-2; 3) (3; -2)
34	$\begin{cases} x+y=0 \\ xy=1 \end{cases}$	<i>impossibile</i>

35	$\begin{cases} x + y = -\frac{9}{10} \\ xy = \frac{1}{5} \end{cases}$	$\left(-\frac{2}{5}; -\frac{1}{2}\right) \left(-\frac{1}{2}; -\frac{2}{5}\right)$
36	$\begin{cases} x + y = -\frac{23}{8} \\ xy = -\frac{9}{2} \end{cases}$	$\left(-4; \frac{9}{8}\right) \left(\frac{9}{8}; -4\right)$
37	$\begin{cases} x + y = \frac{14}{9} \\ xy = \frac{40}{81} \end{cases}$	$\left(\frac{10}{9}; \frac{4}{9}\right) \left(\frac{4}{9}; \frac{10}{9}\right)$
38	$\begin{cases} x + y = \frac{1}{3} \\ x^2 + y^2 = \frac{65}{18} \end{cases}$	$\left(-\frac{7}{6}; \frac{3}{2}\right) \left(\frac{3}{2}; -\frac{7}{6}\right)$
39	$\begin{cases} x + y = \frac{20}{3} \\ x^2 - xy + y^2 = \frac{175}{9} \end{cases}$	$\left(5; \frac{5}{3}\right) \left(\frac{5}{3}; 5\right)$
40	$\begin{cases} x^2 + y^2 = \frac{1}{81} + 3xy \\ 4x + 4y = -\frac{16}{9} \end{cases}$	$\left(-\frac{1}{3}; -\frac{1}{9}\right) \left(-\frac{1}{9}; -\frac{1}{3}\right)$
41	$\begin{cases} x^2 + y^2 = 164 \\ xy = -80 \end{cases}$	$(-8; 10) (10; -8)$ $(8; -10) (-10; 8)$
42	$\begin{cases} x^2 + y^2 = \frac{181}{49} \\ xy = -\frac{90}{49} \end{cases}$	$\left(\frac{9}{7}; -\frac{10}{7}\right) \left(-\frac{10}{7}; \frac{9}{7}\right)$ $\left(-\frac{9}{7}; \frac{10}{7}\right) \left(\frac{10}{7}; -\frac{9}{7}\right)$
43	$\begin{cases} x + y + 21b = 1 \\ xy + 90 = 189b \end{cases}$	$(10 - 21b; -9)$ $(-9; 10 - 21b)$

44	$\begin{cases} 9x + 9y = 13b + 45 \\ 3xy = 35b - \frac{56b^2}{9} \end{cases}$	$\left(5 - \frac{8b}{9}; \frac{7b}{3}\right)$ $\left(\frac{7b}{3}; 5 - \frac{8b}{9}\right)$
45	$\begin{cases} x + y = \frac{2b}{3} \\ x^2 + y^2 = \frac{10b^2}{9} \end{cases}$	$\left(-\frac{b}{3}; b\right)$ $\left(b; -\frac{b}{3}\right)$
46	$\begin{cases} 10b^2 + xy = 17b + 48 \\ x + 19 = 3b - y \end{cases}$	$(-3 - 2b; 5b - 16)$ $(5b - 16; -3 - 2b)$
47	$\begin{cases} x - 18 = 10b - y \\ xy - 56 = b(21b + 110) \end{cases}$	$(3b + 14; 7b + 4)$ $(7b + 4; 3b + 14)$
48	$\begin{cases} x - \frac{29b}{7} + y = 0 \\ \frac{x^2 + y^2}{5} = \frac{101b^2}{49} \end{cases}$	$\left(3b; \frac{8b}{7}\right)$ $\left(\frac{8b}{7}; 3b\right)$
49	$\begin{cases} x + y + b = 0 \\ x^2 + y^2 = 5b^2 \end{cases}$	$(b; -2b)$ $(-2b; b)$
50	$\begin{cases} x + y + 5 = 8b \\ 7b^2 - xy = 41b + 6 \end{cases}$	$(7b + 1; b - 6)$ $(b - 6; 7b + 1)$
51	$\begin{cases} 3xy + 36b^2 = 18b \\ \frac{y}{2}(1 + x) + 6b^2 = 5b + \frac{1 - x}{2} \end{cases}$	$(1 - 2b; 6b)$ $(6b; 1 - 2b)$
52	$\begin{cases} x + y + \frac{b}{3} = 1 \\ x^2 + y^2 - 1 = \frac{b^2 - 3xy - b}{9} \end{cases}$	$\left(1; -\frac{b}{3}\right)$ $\left(-\frac{b}{3}; 1\right)$

## sistemi simmetrici di terzo grado

53	$\begin{cases} x + y = -\frac{5}{2} \\ x^3 + y^3 = -\frac{35}{8} \end{cases}$	$(-1; -\frac{3}{2})$ $(-\frac{3}{2}; -1)$
54	$\begin{cases} x + y = -1 \\ x^3 + y^3 = -\frac{1}{3} \end{cases}$	$(-\frac{2}{3}; -\frac{1}{3})$ $(-\frac{1}{3}; -\frac{2}{3})$
55	$\begin{cases} x + y = -2 \\ x^3 + y^3 = -\frac{31}{2} \end{cases}$	$(-\frac{5}{2}; \frac{1}{2})$ $(\frac{1}{2}; -\frac{5}{2})$
56	$\begin{cases} x + y = 2\sqrt{7} - 1 \\ x^3 + y^3 = 17\sqrt{7} - 22 \end{cases}$	$(\sqrt{7}; \sqrt{7} - 1)$ $(\sqrt{7} - 1; \sqrt{7})$
57	$\begin{cases} x + y = 3\sqrt{6} \\ x^3 + y^3 = 54\sqrt{6} \end{cases}$	$(\sqrt{6}; 2\sqrt{6})$ $(2\sqrt{6}; \sqrt{6})$
58	$\begin{cases} x + y = \frac{b}{4} \\ x^3 + y^3 = \frac{127b^3}{64} \end{cases}$	Se $b \neq 0$ $(\frac{7b}{4}; -\frac{3b}{2})$ $(-\frac{3b}{2}; \frac{7b}{4})$ Se $b = 0$ infinite soluzioni del tipo $(x; -x)$
59	$\begin{cases} x + y = -\frac{10b}{3} \\ x^3 + y^3 = -\frac{250b^3}{27} \end{cases}$	Se $b \neq 0$ $(-\frac{5b}{3}; -\frac{5b}{3})$ Se $b = 0$ infinite soluzioni del tipo $(x; -x)$
60	$\begin{cases} x + y = b \\ x^3 + y^3 = \frac{67b^3}{25} \end{cases}$	Se $b \neq 0$ $(\frac{7b}{5}; -\frac{2b}{5})$ $(-\frac{2b}{5}; \frac{7b}{5})$ Se $b = 0$ infinite soluzioni del tipo $(x; -x)$

61	$\begin{cases} x + y = -\frac{b}{12} \\ x^3 + y^3 = -\frac{37b^3}{1728} \end{cases}$	<p>Se <math>b \neq 0</math></p> $\begin{pmatrix} -\frac{b}{3}; & \frac{b}{4} \\ \frac{b}{4}; & -\frac{b}{3} \end{pmatrix}$ <p>Se <math>b = 0</math> infinite soluzioni del tipo <math>(x; -x)</math></p>
62	$\begin{cases} x + y = 4b - 6 \\ \frac{x^3 + y^3}{4b - 6} = 31b^2 + 42b + 36 \end{cases}$	<p>C.E. <math>b \neq \frac{3}{2}</math></p> $\begin{pmatrix} 5b; & -b - 6 \\ -b - 6; & 5b \end{pmatrix}$
<b>sistemi omogenei con <math>\infty^1</math> soluzioni</b>		
63	$\begin{cases} 3y^2 + x^2 = 4xy \\ 3y^2 = xy \end{cases}$	soluzioni del tipo $(x; \frac{x}{3})$
64	$\begin{cases} 3y^2 + 20xy = 128x^2 \\ 3y^2 + 32xy = 0 \end{cases}$	soluzioni del tipo $(x; -\frac{32x}{3})$
65	$\begin{cases} 45y^2 + 14x^2 = 53xy \\ 36y^2 + 17xy = 35x^2 \end{cases}$	soluzioni del tipo $(x; \frac{7x}{9})$
66	$\begin{cases} 15y^2 = 2x^2 + 7xy \\ 10y^2 + 5x^2 = -27xy \end{cases}$	soluzioni del tipo $(x; -\frac{x}{5})$
67	$\begin{cases} 7y^2 + 8x^2 = -15xy \\ y^2 + xy = 0 \end{cases}$	soluzioni del tipo $(x; -x)$
68	$\begin{cases} 30y^2 = 20x^2 + xy \\ 36y^2 + 35x^2 = 72xy \end{cases}$	soluzioni del tipo $(x; \frac{5x}{6})$
69	$\begin{cases} 49y^2 = 63xy + 10x^2 \\ 21y^2 = 23xy + 10x^2 \end{cases}$	soluzioni del tipo $(x; \frac{10x}{7})$
70	$\begin{cases} y^2 + 6x^2 = 3\sqrt{3}xy \\ y^2 - 6x^2 = -\sqrt{3}xy \end{cases}$	soluzioni del tipo $(x; \sqrt{3}x)$



71	$\begin{cases} 28y^2 + 39xy + 5x^2 = 0 \\ 12y^2 = 13xy + 35x^2 \end{cases}$	soluzioni del tipo $\left(x; -\frac{5x}{4}\right)$
72	$\begin{cases} 4y^2 + 5\sqrt{13}xy = 117x^2 \\ 28y^2 + 468x^2 = -79\sqrt{13}xy \end{cases}$	soluzioni del tipo $\left(x; -\frac{9\sqrt{13}x}{4}\right)$
sistemi di vario tipo		
73	$\begin{cases} 9y^2 + 12xy + 4x^2 = 9 \\ 4y^2 + 33xy + 8x^2 = 0 \end{cases}$	$\left(\frac{12}{5}; -\frac{3}{5}\right) \quad \left(-\frac{12}{5}; \frac{3}{5}\right)$ $\left(\frac{3}{22}; -\frac{12}{11}\right) \quad \left(-\frac{3}{22}; \frac{12}{11}\right)$
74	$\begin{cases} 2y^2 + 2xy + 3x^2 = 3 \\ 2y^2 + 3xy - 2x^2 = 0 \end{cases}$	$\left(\frac{\sqrt{21}}{7}; -\frac{2\sqrt{21}}{7}\right) \quad \left(-\frac{\sqrt{21}}{7}; \frac{2\sqrt{21}}{7}\right)$ $\left(\frac{\sqrt{6}}{3}; \frac{\sqrt{6}}{6}\right) \quad \left(-\frac{\sqrt{6}}{3}; -\frac{\sqrt{6}}{6}\right)$
75	$\begin{cases} x^2 + y^2 = 1 \\ 6y^2 + 21x^2 = 23xy \end{cases}$	$\left(\frac{3\sqrt{58}}{58}; \frac{7\sqrt{58}}{58}\right) \quad \left(-\frac{3\sqrt{58}}{58}; -\frac{7\sqrt{58}}{58}\right)$ $\left(\frac{2\sqrt{13}}{13}; \frac{3\sqrt{13}}{13}\right) \quad \left(-\frac{2\sqrt{13}}{13}; -\frac{3\sqrt{13}}{13}\right)$
76	$\begin{cases} y^2 + 2xy = 3 \\ 4y^2 + 31xy = 8x^2 \end{cases}$	$\left(\frac{1}{4}; -2\right) \quad \left(-\frac{1}{4}; 2\right)$ $\left(\frac{4\sqrt{3}}{3}; \frac{\sqrt{3}}{3}\right) \quad \left(-\frac{4\sqrt{3}}{3}; -\frac{\sqrt{3}}{3}\right)$
77	$\begin{cases} 7y^2 + 6xy + 24x^2 = 8 \\ 3y^2 + 2xy - 8x^2 = 0 \end{cases}$	$\left(\frac{\sqrt{5}}{5}; -\frac{2\sqrt{5}}{5}\right) \quad \left(-\frac{\sqrt{5}}{5}; \frac{2\sqrt{5}}{5}\right)$ $\left(\frac{3\sqrt{2}}{10}; \frac{2\sqrt{2}}{5}\right) \quad \left(-\frac{3\sqrt{2}}{10}; -\frac{2\sqrt{2}}{5}\right)$
78	$\begin{cases} y^2 + xy = 0 \\ 18y^2 + 5x^2 + 40xy = 20 \end{cases}$	$(2; 0) \quad (-2; 0)$

79	$\begin{cases} 8y^2 + 5xy + 5x^2 = 10 \\ 5y^2 + 3xy = 0 \end{cases}$	$(\sqrt{2}; 0) \quad (-\sqrt{2}; 0)$ $\left(\frac{5\sqrt{305}}{61}; -\frac{3\sqrt{305}}{61}\right) \quad \left(-\frac{5\sqrt{305}}{61}; \frac{3\sqrt{305}}{61}\right)$
80	$\begin{cases} 8y^2 + 27xy + 6x^2 = 6 \\ 9y^2 - 12xy + 4x^2 = 0 \end{cases}$	$\left(\frac{3\sqrt{93}}{62}; \frac{3\sqrt{31}}{31}\right) \quad \left(-\frac{3\sqrt{93}}{62}; -\frac{3\sqrt{31}}{31}\right)$
81	$\begin{cases} y^2 + 6xy + 2x^2 = 1 \\ 32y^2 + 68xy + 35x^2 = 0 \end{cases} \left(\pm \frac{\sqrt{15}}{15}; \pm \frac{3\sqrt{15}}{15}\right)$	<i>impossibile</i>
82	$\begin{cases} y^2 + 10xy + 6x^2 = 3 \\ 4y^2 - 15xy + 9x^2 = 0 \end{cases}$	$\left(\frac{4\sqrt{3}}{15}; \frac{\sqrt{3}}{5}\right) \quad \left(-\frac{4\sqrt{3}}{15}; -\frac{\sqrt{3}}{5}\right)$ $\left(\frac{\sqrt{15}}{15}; \frac{3\sqrt{15}}{15}\right) \quad \left(-\frac{\sqrt{15}}{15}; -\frac{3\sqrt{15}}{15}\right)$
83	$\begin{cases} 9y^2 + 10xy + 2x^2 = 6 \\ 36y^2 + 40xy + 17x^2 = 27 \end{cases}$	$\left(\frac{\sqrt{3}}{3}; -\frac{2\sqrt{3}}{3}\right) \quad \left(-\frac{\sqrt{3}}{3}; \frac{2\sqrt{3}}{3}\right)$ $\left(\frac{\sqrt{3}}{3}; \frac{8\sqrt{3}}{27}\right) \quad \left(-\frac{\sqrt{3}}{3}; -\frac{8\sqrt{3}}{27}\right)$
84	$\begin{cases} 8y^2 + 20xy + 5x^2 = 20 \\ 33y^2 + 71xy + x^2 = 100 \end{cases}$	$\left(\frac{2\sqrt{85}}{17}; -\frac{6\sqrt{85}}{17}\right) \quad \left(-\frac{2\sqrt{85}}{17}; \frac{6\sqrt{85}}{17}\right)$
85	$\begin{cases} y^2 + 5xy + x^2 = 1 \\ 3y^2 + 9xy - 26x^2 = 4 \end{cases}$	$(1; -5) \quad (-1; 5)$ $\left(\frac{\sqrt{7}}{7}; -\frac{6\sqrt{7}}{7}\right) \quad \left(-\frac{\sqrt{7}}{7}; \frac{6\sqrt{7}}{7}\right)$
86	$\begin{cases} 6y^2 + 24xy + 5x^2 = 30 \\ y^2 + 10xy + 3x^2 = 12 \end{cases}$	$\left(\frac{\sqrt{42}}{7}; \frac{\sqrt{42}}{7}\right) \quad \left(-\frac{\sqrt{42}}{7}; -\frac{\sqrt{42}}{7}\right)$
87	$\begin{cases} 10y^2 + 35xy + 21x^2 = 6 \\ 4y^2 + 12xy + 7x^2 = 2 \end{cases}$	$\left(1; -\frac{1}{2}\right) \quad \left(-1; \frac{1}{2}\right)$ $\left(\frac{\sqrt{14}}{7}; 0\right) \quad \left(-\frac{\sqrt{14}}{7}; 0\right)$

88	$\begin{cases} 9y^2 + 80xy + 12x^2 = 8 \\ y^2 + 11xy - 2x^2 = 4 \end{cases}$	<i>impossibile</i>
89	$\begin{cases} 6y^2 + 3xy + 4x^2 = 2 \\ 8y^2 - 6xy - x^2 = 4 \end{cases}$	$\left(\frac{\sqrt{26}}{13}; -\frac{3\sqrt{26}}{26}\right) \left(-\frac{\sqrt{26}}{13}; \frac{3\sqrt{26}}{26}\right)$
90	$\begin{cases} xy + 9x^2 = 3 \\ -y^2 - xy + 36x^2 = 12 \end{cases}$	$\left(\frac{\sqrt{3}}{3}; 0\right) \left(-\frac{\sqrt{3}}{3}; 0\right)$ $\left(\frac{\sqrt{3}}{2}; -\frac{5\sqrt{3}}{2}\right) \left(-\frac{\sqrt{3}}{2}; \frac{5\sqrt{3}}{2}\right)$
91	$\begin{cases} 108y^2 + 3xy + 4x^2 = 12 \\ 969y^2 + 23xy + 36x^2 = 108 \end{cases}$	$(\sqrt{3}; 0) (-\sqrt{3}; 0)$ $\left(\frac{1}{4}; -\frac{1}{3}\right) \left(-\frac{1}{4}; \frac{1}{3}\right)$
92	$\begin{cases} 163y^2 + 441xy + 19x^2 = 168 \\ 3x^2 + 64xy + 24y^2 = 24 \end{cases}$	<i>impossibile</i>