

CHIMICA DEI MATERIALI 2M

RINFORZO: Ripetere in modo molto approfondito i tipi di legami (ionici, covalenti, ad idrogeno) e le caratteristiche generali delle reazioni chimiche spiegate in classe. Rispondere alle seguenti domande:

- 1) Cos'è un legame ionico?
- 2) Cos'è un legame covalente?
- 3) Cos'è l'elettronegatività e che ruolo ha nei legami?
- 4) Cos'è un legame ad idrogeno?
- 5) Esempi di composti ionici
- 6) Esempi di molecole
- 7) Cosa succede agli elettroni di legame in due atomi legati con legame covalente?
- 8) Cosa succede agli elettroni di legame in due atomi legati con legame ionico?
- 9) Differenza tra trasformazione fisica e chimica
- 10) Cosa significa reazione endoergonica ed esoergonica?
- 11) Spiega come cambiano la massa e il volume in una reazione
- 12) Spiega cosa si può fare per aumentare la velocità di una reazione

COMPITI PER LE VACANZE: Rispondere ad almeno sei delle precedenti domande.

MATEMATICA 2M

RINFORZO: Svolgere almeno 30 delle equazioni di primo grado proposte

COMPITI PER LE VACANZE: Svolgere almeno 15 delle equazioni di primo grado proposte

1	$2x - 3 = -5$	-1
2	$6x - 26 = 16x - 56$	3
3	$8x - 9x = 6x + 12 - 12x$	$\frac{12}{5}$
4	$3x - 2 = 4x + 6$	-8
5	$-x + 4 = 7x$	$\frac{1}{2}$
6	$-2x + 5 = 6 - 3x$	1
7	$-8x + 5 = 5 - 8x$	<i>indeterminata</i>
8	$3x - 15 = 2x - 20$	-5
9	$3(7x - 5) = 15x - 1$	$\frac{7}{3}$
10	$4(3x - 1) = 4x - 2$	$\frac{1}{4}$
11	$3(3x - 1) + x = 1 - 5x$	$\frac{4}{15}$
12	$40 + x = 3(15 + x)$	$-\frac{5}{2}$
13	$2(x - 4) = 3(x - 5)$	7
14	$5x - 3 = 2(x - 1) + 5$	2
15	$x - 3(x + 1) = 5x - 4(x - 1)$	$-\frac{7}{3}$
16	$5x + 2(x + 1) - 3x = 4x - 3 + x$	5

17	$3x - 5 + 2(x - 3) = 1 + 5x$	<i>impossibile</i>
18	$2(5 + x) = 5x + 1$	3
19	$3(3 + x) - x = 5x + 14$	$-\frac{5}{3}$
20	$4(x - 3) - 3(x - 5) = 3(x + 1)$	0
21	$8(x + 3) = 8x - 24$	<i>impossibile</i>
22	$6(x + 3) - 3(x + 6) = 2(x - 5)$	-10
23	$4(2x - 3) - 5(3x - 2) = 8(1 - x)$	10
24	$7(x - 18) = 3(x - 14) - 20$	16
25	$3(x - 2) - 40 = 9 + 7(x - 9)$	2
26	$5(2x - 10) + 26 = 2(x + 3) + 10$	5
27	$(x - 3)(x - 2) = x(x - 6)$	-6
28	$3(3 - 2x) = 24 + 4(2x - 1)$	$-\frac{11}{14}$
29	$2(x + 1) - 3x = x - 3(x - 1)$	1
30	$4(1 - 2x) - 2x + 4 = 2(3x - 1) + 4$	$\frac{3}{8}$
31	$3(x + 2) + 4(x + 3) = 2x - 9(x - 1) + x$	$-\frac{9}{13}$
32	$2(x + 1) - 3(x + 2) = 4x - 2(x + 1)$	$-\frac{2}{3}$

33	$3(1 - x) + 5(1 - x) = 3(x - 1) + 1$	$\frac{10}{11}$
34	$3(1 - x) + 2(3 - 2x) = 4(1 - x) + 3(x - 2)$	$\frac{11}{6}$
35	$3(x - 1) - 2x + 5 = 4(x - 2) + 4$	2
36	$3(2x + 1) = 3 + 6x$	<i>indeterminata</i>
37	$2 + x + 2(60x + 30x) = 542 + x$	3
38	$2x + 5(x - 6) = x + 6(x + 1)$	<i>impossibile</i>
39	$5(2 + x) = 3(1 + x) - 2x - 4(2 - x)$	<i>impossibile</i>
40	$(7 - 3x)2 + x = 5 - 3(5 - x)$	3
41	$2(x - 3) - 4(1 - 2x) = 3(x - 1)$	1
42	$(x + 2)^2 = x^2$	-1
43	$x(x + 6) + x + 9 = x + (x + 3)^2$	<i>indeterminata</i>
44	$(x - 6)(x + 6) = (x - 6)^2$	6
45	$(x - 1)^2 = x(x - 2)$	<i>impossibile</i>
46	$(2x - 3)^2 - (2x + 1)(2x - 1) = 10 - 12x$	<i>indeterminata</i>
47	$(x + 1)^2 = x^2 + 1$	0
48	$x(x^2 - 2) - (x + 1)^3 = 3x - (3x^2 + 2)$	$\frac{1}{8}$

49	$5x - (x - 2)^2 - 3(2x + 5) = 4 - (x - 1)(x + 1) - 3$	7
50	$x - 1 + 5(x - 3) + (-2)^2 = 6x - 2$	<i>impossibile</i>
51	$(2x + 3)(x - 2) + (x - 2)(x - 3) = 3x(x - 3)$	0
52	$(1 - 3x)(1 + 3x) - 2(x - 5) = 3 - 9x^2$	4
53	$(3x - 4)^2 - 3x(3x - 5) + 2 = 0$	2
54	$(5x - 1)^2 - 7x(3x - 2) = (2x - 3)^2$	$\frac{1}{2}$
55	$(x - 2)^2 = (x - 1)^2 + 5$	-1
56	$(3x - 2)^2 + 2x - 1 = (2x + 1)^2 + 5x(x - 2) - 3$	$\frac{5}{4}$
57	$(x - 2)^3 + 3x(2 + x) = (x - 1)^3 + 2$	$\frac{3}{5}$
58	$(3x - 4)^3 - 2(3x - 1)^2(x - 8) - 3x^2(3x + 16) = 0$	$\frac{24}{23}$
59	$4(x - 3)(x + 3) - 1 = 4x^2 - 2x$	$\frac{37}{2}$
60	$1 - [2 - 3(x + 1)] = 2(2 + x) - 4x$	$\frac{2}{5}$
61	$[(x - 1)(x + 1)]^2 = (x^2 + 1)^2 - 2(2x^2 + 1) - 2x$	-1
62	$2(x - 1)(x + 1) + (2 - x)^3 = (4x - 2)(1 + 2x) - x^3 + 8 - 12x$	<i>indeterminata</i>

63	$8 - 3[2x - 3(x - 2) + 5] - 2(4x - 5) = 0$	-3
64	$5 - [-(x - 1) - 5(2x - 1)] = 2 + x + (2x - 3)$	0
65	$2 - \{2x - 3(2x - 1) - 5[2x - (3x + 1) + 3]\} = 0$	9
66	$2x - [x - 1 - (2x + 1) - 3] = x + 1$	-2
67	$[(x - 6) - 3 - 2x - (x - 5)] + 2(5x + 4) = -2x$	$-\frac{2}{5}$
68	$8 - (1 + 2x) - \{1 - 2[3(x - 5)] - 5x + 4(2x + 2) - 1\} = 0$	31
69	$\frac{1}{5}x - 9 = 2x$	-5
70	$\frac{1}{2}x - 1 = 0$	2
71	$\frac{1}{4}x + 3 = x - 6$	12
72	$\frac{1}{2}x - 1 = \frac{1}{3}x + 2$	18
73	$\frac{2x + 5}{3} - \frac{x + 10}{6} = 0$	0
74	$\frac{x + 1}{3} = 2x - 3$	2
75	$\frac{7}{3} + \frac{2 - x}{6} = \frac{1 + 2x}{6} - \frac{1 - x}{2}$	3
76	$\frac{5 - 3x}{4} + \frac{5}{3}x = \frac{3}{2} - \frac{3 - 5x}{3}$	1

77	$\frac{1}{3}x + \frac{1}{2} = \frac{1}{4}x + \frac{1}{3}$	-2
78	$\frac{x+1}{4} + \frac{5-4x}{6} = \frac{1}{4} - \frac{1}{2}x + 3$	26
79	$x + 2 - \frac{1}{4}x = \frac{2x-5}{3} + \frac{x+10}{2} - 1$	$-\frac{4}{5}$
80	$\frac{2x+1}{6} + \frac{2x-4}{5} - 6 = \frac{20-x}{4} + \frac{1}{6}$	12
81	$\frac{x+2}{3} + \frac{5-2x}{5} + 1 = \frac{2x-5}{15} + \frac{2x+7}{3} - x$	-5
82	$\frac{x-4}{2} - \frac{x-3}{4} = 1 + \frac{x-2}{8}$	16
83	$x - \frac{x+3}{2} - 3 = \frac{1-x}{3} + 1$	7
84	$\frac{3x+5}{9} - \frac{2x+3}{6} - \frac{1-2x}{2} = 0$	$\frac{4}{9}$
85	$\frac{x}{2} + \frac{x+1}{7} = x - 2$	6
86	$\frac{x+1}{10} - \frac{2x+1}{5} = \frac{2x-1}{5} - \frac{x-1}{2} + 1$	-7
87	$\frac{x+1}{2} - \frac{3}{4}x = \frac{4-3x}{5} + \frac{3}{4}$	3
88	$\frac{1-3x}{2} + \frac{1}{3}x = \frac{x-1}{6} + \frac{1}{4}$	$\frac{5}{16}$
89	$\frac{x+2}{8} - \frac{2x-3}{12} + \frac{1+x}{24} = \frac{5-x}{12} - \frac{5}{4}$	$-\frac{33}{2}$
90	$\frac{x+2}{2} - \frac{x-3}{6} + \frac{3-x}{12} = \frac{10-x}{6} - \frac{5}{3} - x + 1$	$-\frac{9}{17}$

91	$\frac{2x-1}{2} - 5 = 2x - 9 - \frac{1-2x}{2}$	2
92	$\frac{3x-6}{2} - \frac{5x-7}{9} = \frac{4x-5}{3} - \frac{x+3}{4} - \frac{1}{2}$	5
93	$\frac{4x+1}{6} + \frac{1}{3} = \frac{2x-1}{3}$	<i>impossibile</i>
94	$7x - \frac{2}{5} + x - 3 = x - 3 + 7x - \frac{2}{5}$	<i>indeterminata</i>
95	$\frac{x+1}{2} - \frac{x-1}{4} + \frac{3x-1}{4} = \frac{2x-1}{2}$	<i>impossibile</i>
96	$\frac{7-5x}{2} - 2x = -\frac{14x-11}{3} - \frac{1-x}{6}$	<i>indeterminata</i>
97	$\frac{4+5x}{2} - \frac{5}{6} + \frac{8-12x}{11} = \frac{6-7x}{3} - \frac{12x-8}{11}$	$\frac{5}{29}$
98	$\frac{6-2x}{5} + \frac{2-5x}{-5} = \frac{3x-5}{10} - \frac{x+4}{-3}$	-1
99	$\frac{1}{4}(2x-1) = \frac{35}{4} - x$	6
100	$-\frac{x-2}{4} + \frac{x-2}{3} + \frac{1}{3}(x-2) = \frac{x-1}{2} - \frac{1}{4}$	-1
101	$2 - \frac{1}{2}x + 3(x-2) = \frac{1}{4} + 3x - 1$	$-\frac{13}{2}$
102	$x - \frac{2}{3} + \frac{1}{9}(x-2) + \frac{1}{3}(x+2) = \left(x - \frac{2}{3}\right) + 3x - 1$	$\frac{13}{23}$
103	$\frac{1}{4}(5x-3) + \frac{6-x}{8} = 0$	0
104	$\frac{2x-1}{2} : \frac{3}{4} - \left(2x - \frac{1}{3}\right) : \frac{4}{5} = \frac{1}{12} - \frac{5}{4}x$	4

105	$\frac{x-2}{6} = \frac{x-2}{2} - \frac{x-2}{3}$	<i>indeterminata</i>
106	$\frac{5}{2} - \frac{3}{4} \left(\frac{1}{3} - \frac{x}{2} \right) - \left(\frac{2x-5}{6} - 1 \right) = 1$	-74
107	$\frac{x}{60} + \frac{2}{15} (3x-1) + \frac{2x-1}{10} = \frac{3x+1}{3} - 9$	22
108	$\frac{(x-2)(x+2)}{4} - \frac{3x^2-2x}{12} + \frac{1-2x}{3} = -\frac{1-x}{2} - \frac{5}{4}$	$\frac{13}{12}$
109	$2 \left(\frac{3x-2}{4} - \frac{x-1}{4} - \frac{x}{2} \right) = x-3 - \frac{5+x}{2} + \left(5 - \frac{x}{2} \right)$	<i>indeterminata</i>
110	$\frac{1}{3} \left(\frac{2}{5} - \frac{1}{3}x \right) = \frac{x}{6} - \frac{2x-1}{6}$	$\frac{3}{5}$
111	$\frac{x-1}{2} + \frac{1}{16}x - 2 = \frac{x}{2} - \frac{1}{4} + \frac{3(3x-1)}{8}$	$-\frac{30}{17}$
112	$\frac{1}{4}x - \frac{5(x+2)}{12} - \frac{2x+1}{2} + \frac{2(3x-1)}{3} = 0$	$\frac{12}{5}$
113	$\frac{2x-3}{2} - \frac{1}{2} - 2 = 3x-5 - (2-x) - 3x$	<i>impossibile</i>
114	$\frac{x+2}{3} - \frac{x-1}{2} + 2 = \frac{19-x}{6}$	<i>indeterminata</i>
115	$\frac{4x+3}{7} - \frac{2(x+2)}{2} = \frac{6x-5}{14} - (x-1)$	$\frac{31}{2}$
116	$\frac{x^2+2x}{2} - \frac{1}{2}(3x+1) = \frac{1}{4}(1-x)(2x+1) + x(x-1)$	3
117	$\left(\frac{x-2}{2} \right)^2 - \frac{x(x+8)}{4} = \frac{4-x}{3}$	$-\frac{1}{8}$
118	$\frac{(x+2)^2}{12} + \frac{(x-4)(x-6)}{8} = \frac{(5x-2)(x-8)}{24} + \frac{28}{3}$	8

119	$(2x - 1)^2 = \left(2x + \frac{1}{2}\right)\left(2x - \frac{1}{2}\right)$	$\frac{5}{16}$
120	$4x(x + 1) + \left(\frac{1}{2} - x\right)\left(x + \frac{1}{2}\right) = (2x + 1)^2 - x(x + 1)$	$\frac{3}{4}$
121	$(x + 2)^2 - \frac{3x - 5}{2} = (x - 3)^2 - \frac{6 - x}{2} + \frac{3 - x}{4} + 5$	$\frac{7}{11}$
122	$\frac{1}{4}(3x - 2) + \frac{1}{3}(2x - 1) = \frac{1}{4}(5x + 6) + \frac{1}{3}(4x + 5)$	$-\frac{24}{7}$
123	$\frac{2(x - 3)}{5} + \frac{1}{10}(5 - x) = 6 - \frac{3 - 2x}{2}$	$-\frac{52}{7}$
124	$\frac{3}{2}\left(\frac{7}{6} - x\right) - 2\left(x - \frac{2}{3}\right) = \frac{3}{2}\left(\frac{1}{2} - x\right) + \frac{4}{3} - 1$	1
125	$x - \frac{4(4 - x)}{9} = 1 - 2\left(x + \frac{1}{2}\right) + \frac{1}{3}(2x + 3)$	1
126	$\frac{5x + 3}{4} - 1 + \frac{7}{20} = \frac{x}{60} - \left(\frac{2}{5} - \frac{2x}{3} - \frac{2x + 1}{3}\right)$	$\frac{5}{3}$
127	$(3x - 2)(3x + 2) - \left(x - \frac{2}{3}\right)^2 - 8x^2 = \frac{2}{3}(3x + 2) - \frac{32}{9}$	$-\frac{10}{3}$
128	$\left(\frac{5}{3}x + \frac{10}{3}\right)^2 - x\left(\frac{25}{9}x + 3\right) + \frac{46}{9} = 0$	-2
129	$\frac{1}{2}\left(x - \frac{2}{3}\right)^2 + x\left(x - \frac{2}{3}\right)\left(x + \frac{2}{3}\right) - x^3 = \frac{x}{2}\left(x - \frac{2}{3}\right) - \frac{8}{27}$	$\frac{2}{3}$
130	$\left(3x - \frac{1}{2}\right)^2 + \frac{4}{3}\left(x - \frac{1}{6}\right) + 2 = \left(3x - \frac{1}{2}\right)\left(3x + \frac{1}{2}\right) + 12x$	$\frac{1}{6}$
131	$(2x + 1)^2 - 2\left(x + \frac{1}{2}\right)(2x - 1) + x + \frac{7}{2} = 3$	$-\frac{1}{2}$
132	$\left(\frac{x}{2} + 1\right)^2 - 3\left(\frac{x}{2} + 1\right) + \frac{2x}{5} - x = -\frac{34}{5} + \frac{x^2}{4}$	$\frac{48}{11}$

133	$\frac{(x+1)^2}{3} + \frac{(x-1)(x+1)}{2} - 3x = \frac{3(x+1)^2}{2} - \frac{2x^2-11}{3}$	-1
134	$\frac{(x-3)^2}{2} + 2(x-3)(x+3) + 5x = x(x-3) + \frac{x(3x+1)}{2}$	3
135	$\frac{2x-25}{5} + \frac{(9-x)^2}{3} + x^2 - 20 = 2 + \frac{4x(x-1)}{3}$	0
136	$2x - \left[\frac{x-2}{3} - \frac{1-x}{3} - \left(5x + \frac{2x+1}{2} \right) \right] = \frac{3}{2}$	0
137	$\frac{2-x}{3} - \left[\frac{1}{3}(x+1) - \left(1 + \frac{x}{3} \right) \right] - 1 = \frac{1}{3}x - \frac{1}{3}(x-3)$	-2
138	$\frac{3x-1}{2} - \left[\frac{x-1}{4} - \left(\frac{x+3}{2} - 2 \right) \right] + \frac{17}{4} = 0$	-2
139	$\frac{4}{5} - \left[-\frac{2}{3} - \left(\frac{x}{5} - \frac{19}{4} \right) - \left(\frac{2x+1}{4} + \frac{8}{5} \right) \right] = \frac{2}{3}$	3
140	$\frac{2x}{5} - 3 \left[\frac{2x-3}{2} - \left(2 - \frac{2x+1}{3} \right) \right] - \frac{13}{5} = 0$	$\frac{3}{2}$
141	$\left[3 \left(1 - \frac{x}{4} \right) + 2x - \frac{3-2x}{2} \right] + (3-x)^2 - \frac{2-3x}{2} = (x-3)^2 - \frac{6-x}{2}$	$-\frac{14}{13}$
142	$(x-1)^3 + \frac{1}{3}x - \frac{5x-1}{6} = x^3 - 2x + \frac{x-3}{9} - 3x^2 - 2x + 7$	$\frac{27}{23}$
143	$2 - x + \frac{x-3}{5} - \left[2(x+1) - \frac{1}{5}(2x-3) \right] = \frac{x-3}{9} - 2x - 1$	$\frac{6}{23}$
144	$\frac{2}{15} - \left[\frac{3}{4} - \frac{2x-35}{10} - \left(\frac{3}{5} + \frac{2x+5}{4} + \frac{1}{6} \right) \right] = 0$	3
145	$2 \left[\frac{3}{4}x - \frac{1}{2} \left(x-1 - \frac{2x-1}{3} - \frac{2-x}{2} \right) \right] + \frac{7x+1}{3} = 0$	$-\frac{2}{3}$
146	$\frac{x}{3} - \left\{ -\frac{x}{2} - \left[\frac{x-1}{3} - \left(\frac{x+1}{2} - \frac{2x}{3} \right) \right] \right\} = 0$	$\frac{5}{8}$

147	$\frac{1}{2} \left(\frac{1}{4}x - x \right) + \frac{1}{2} \left[3x + \frac{1}{3} \left(2 - x + \frac{1}{4} \right) \right] = \frac{1}{8}(x - 3) + \frac{1}{3}$	$-\frac{1}{2}$
148	$\frac{4}{5} \left[(x - 2)^2 + \left(-\frac{1}{2}x - 2 \right) \left(2 - \frac{1}{2}x \right) \right] = x(x - 5) - \frac{1}{5}x + 1$	$\frac{1}{2}$
149	$\frac{x - \frac{1}{2}}{1 - \frac{1}{2}} - \frac{x + \frac{1}{3}}{1 - \frac{1}{3}} + \frac{x}{6} = \frac{x - 1}{3} - \frac{x + 1}{2} - \frac{5}{3}$	$-\frac{6}{5}$
150	$\frac{2x + \frac{3}{4}}{1 - \frac{2}{5}} - 1 = \frac{x - \frac{1}{6}}{\frac{2}{3}} + \frac{1}{3}x + \frac{7}{2}$	2
151	$\frac{1}{8}(x + 7) - 3 = \frac{x + 1}{2} - \left[\frac{1}{5}(6 - x) + 1 + \frac{1}{3}(2 + x) \right]$	1
152	$\frac{x - \frac{5}{4}}{3 + \frac{1}{2}} - \frac{\frac{4x + 3}{6}}{2 - \frac{5}{6}} = \left(x - \frac{2}{3} \right) : \left(2 - \frac{4}{3} \right) - \left(1 - \frac{6}{7} \right)$	$\frac{1}{5}$
153	$\frac{3x - 1}{2} + \frac{\frac{13x - 16}{9}}{1 + \frac{1}{3}} = \frac{4x - 1}{3} - \frac{6 - 5x}{4}$	<i>indeterminata</i>
154	$4 \left\{ x - 3 \left[1 - x + \frac{2x - 5}{6} - 2 \left(2x + \frac{1}{2} \right) \right] \right\} - 10 = 60x$	<i>indeterminata</i>
155	$\frac{7(7 - x)}{6} = \frac{3(17 - 2x)}{9} + \frac{4x - 9}{7} - \frac{13 - x}{2} + 4$	4
156	$\frac{\frac{4x - 1}{3} - \frac{x + 1}{2}}{\frac{2}{3}} - \frac{\frac{x}{2} - 1}{3} = \frac{3 \left(\frac{x + 1}{4} - 2 \right)}{\frac{3}{4}}$	-73
157	$\frac{2 \left(\frac{3x - 1}{2} - \frac{5}{3} \right) - \frac{2x - 3}{4}}{\frac{1}{2} - \frac{3}{4}} + \frac{3x - 2}{\frac{3}{2}} = \frac{x + 4}{\frac{1}{2}}$	$\frac{1}{2}$

158	$\frac{\frac{2x-1}{4} - \frac{4x-6}{5}}{\frac{3}{2} - \frac{4}{5}} - \frac{\frac{x}{3} + \frac{7}{12} - \frac{x-1}{4}}{\frac{3}{4} - \frac{1}{2}} + \frac{7}{2} = 0$	2
159	$\frac{2}{3} \left[\frac{1}{2}(2x-1) + \frac{1}{4}(2x+1) \right] = \frac{1}{3} \left[\frac{1}{2}(x+1) - \frac{1}{2}x \right] + \frac{1}{6}$	$\frac{1}{2}$
160	$2x - \frac{1}{3} + \left(1 - \frac{1}{3}\right) \left(x - \frac{1}{5}\right) = (x+1) \left(2 - \frac{1}{5}\right) + 3x - \frac{2}{15}$	-1
161	$\left(\frac{2x+1}{2} - \frac{2x-1}{3}\right) \left(\frac{1}{2} - \frac{1}{3}\right) = \frac{5}{6} \left(\frac{2x+1}{2} + \frac{2x-1}{3}\right) - \frac{4}{3}x$	indeterminata
162	$\frac{x+0,1}{0,2} = 1,85 + 0,5x$	$\frac{3}{10}$
163	$(0,2x+1)(0,5x-3) = 10(0,1x-0,5)^2$	$\frac{55}{9}$
164	$10x - \frac{x+4}{0,4} = \frac{x-4}{2} + \frac{x-4}{0,2}$	-6
165	$\frac{x-0,2}{2} - \frac{x-0,3}{3} + \frac{x+0,4}{4} - \frac{x+1}{12} = \frac{x-0,1}{3} - \frac{x+1}{12}$	$-\frac{8}{5}$
166	$\frac{x-0,5}{4} - \frac{x-0,5}{3} - \frac{2x-1}{2} = x - \frac{1}{2}$	$\frac{1}{2}$
167	$\frac{0,2\bar{x} - 0,3\bar{3}}{0,1\bar{1}} = 0,5$	$\frac{7}{4}$
168	$\frac{0,5x + 0,3\bar{3}}{0,5} - \frac{0,5x - 0,3\bar{3}}{0,2} + x = 2x - \frac{x+3}{7} + \frac{9}{7} - \frac{x}{6}$	$\frac{31}{46}$
169	$\frac{0,6\bar{6} + 0,5 - x}{0,6\bar{6}} + \frac{0,6\bar{6} - x}{0,5} = \frac{0,5 - x}{0,6\bar{6}} + \frac{0,6\bar{6} - 0,5x}{0,5}$	1
170	$\frac{x+3}{\frac{1}{2}} - 11 = \frac{1-x}{\frac{1}{8}} - \frac{2x-1}{\frac{1}{3}}$	1
171	$x - (0,3\bar{x}^2 + 1)(0,3\bar{x}^2 - 1) + 3x \left[\left(\frac{1}{3}x + \frac{2}{3}\right)^3 - \frac{2}{9}x(x+2) - \frac{8}{27} \right] = 1$	0

172	$\frac{x-4}{\frac{1}{5}} - \frac{x^2-1}{\frac{1}{2}} = - \left[7x + \frac{(x-3)^2}{\frac{1}{2}} \right]$	<i>indeterminata</i>
173	$10 \left(\frac{3-\frac{x}{3}}{2-\frac{1}{3}} \right) = \left(\frac{x-\frac{1}{2}}{1+\frac{3}{2}} - \frac{x+\frac{3}{2}}{1-\frac{5}{2}} \right) : \left(3 - \frac{43}{15} \right)$	$\frac{6}{5}$
174	$\frac{5}{3} \left(\frac{4x-3}{5} + \frac{3}{4} \right) - \left(\frac{3x-11}{20} - \frac{1}{4} \right) + \frac{4}{3} = \frac{8(3x-1)}{15}$	7
175	$\frac{\frac{1}{2}-x}{\frac{1}{2}-1} - \frac{x+\frac{1}{3}}{\frac{1}{3}-1} - \frac{x}{6} = \frac{x-1}{3} - \frac{5}{3} - \frac{x+1}{2}$	$-\frac{4}{7}$
176	$2 \left(1 + \frac{2x-\frac{1}{2}}{1+\frac{1}{2}} \right) - \frac{5}{3} = \frac{3}{4} + \frac{5}{4} \left(\frac{x-\frac{2}{3}}{1-\frac{1}{2}} - 1 \right) + \frac{3}{4}$	$-\frac{13}{2}$
177	$\frac{\frac{2-x}{3} - \frac{3-x}{2}}{1-\frac{1}{6}} = \frac{\frac{x}{3} - \frac{x}{2}}{\frac{1}{3} + \frac{1}{2}} + 1$	5