João Eduardo Peliguini Ferrari

(1) a) $517, 14/2, 10000000$

b) $-2,0, 517, 14/2, 10000000$

c) $5,25, \frac{632}{75}, 0,\overline{33}, 125,666, -2, 0, 517, 14/2, 10000000$

d) $\sqrt{5}, -\sqrt{4}, \sqrt{2}-1$

(2) a) $\frac{1}{5} + \frac{9}{5} = \frac{10}{5} = 2$

b) $\frac{1}{2} \overset{(\cdot 7)}{+} \frac{5}{7} \overset{(\cdot 2)}{-} 1 = \frac{7}{14} + \frac{10}{14} - \frac{14}{14} = \frac{17}{14} - \frac{14}{14} = \frac{3}{14}$

c) $\frac{5}{4} \overset{(\cdot 5)}{-} \frac{4}{5} \overset{(\cdot 4)}{} = \frac{25}{20} - \frac{16}{20} = \frac{9}{20}$

d) $\frac{3}{2} + \frac{5}{14} + \frac{8}{35} =$

$\frac{3}{2} + \frac{5}{14} + \frac{8}{35}$

2, 14, 35	2
1, 7, 35	5
1, 7, 7	7
1, 1, 1	70

$= \frac{105+25+16}{70} = \frac{146}{70} \overset{:2}{=} \frac{73}{35}$

e) $\frac{\frac{5}{7}}{\frac{7}{3}} = \frac{5}{7} \cdot \frac{3}{7} = \frac{15}{49}$

f) $\frac{2.5}{7\ 7} = \frac{10}{49}$

g) $\frac{2}{5} \cdot \frac{25}{9} \cdot \frac{7}{4} = \frac{350}{180} \overset{(:10)}{=} \frac{35}{18}$

h) $\frac{13}{20} \cdot \frac{21}{5} - \frac{5}{24} : \frac{15}{2} = \frac{273}{10} \overset{(\cdot 36)}{-} \frac{10}{360} = \frac{9828}{360} - \frac{10}{360} = \frac{9818}{360} \overset{:2}{=} \frac{4909}{180}$

i) $\frac{-120:5}{108:(-36)} = \frac{-24}{-3} = 8$

j) $34 / (24 / (-144 / (-12))) = 34 / (24 / 12) = 34 / 2 = 17$

3) a) 10 | 3
9 | 0,33...
10
9

b) 20 | 5
20 | 0,4
00

c) 5 | 4
4 | 1,25
10
8
20
20
00

d) 30 | 16
16 | 0,1875
140
128
120
112
80
80
00

e) 30 | 20
20 | 0,15
100
100
000

f) 30 | 7
28 | 0,428571...
20
14
60
56
40
35
50
49
10
7
3

g) 30 | 11
22 | 0,27...
80
77
30

h) 20 | 3
18 | 0,66...
20
18
2

i) 300 | 50
300 | 0,06
000

a)

1) 42 | 3 — -3 — 12 — 12 — 00 — 14

b) 92 | 8 — -8 — 12 — 8 — 40 — 40 — 00 — 11,5

c) 65 | 5 — 5 — 15 — 15 — 00 — 13.4 = 52

d) $\frac{9}{7} \cdot 63 = \frac{567}{7} = 81$

5) $\frac{3}{8} = 45$ | $\frac{5}{8} = 75$ | 45 + 75 = 120 reais

$\frac{1}{8} = 15$

6) $\frac{5}{6} \cdot x = 350$

$x = \frac{350}{\frac{5}{6}} = \frac{350 \cdot 6}{5} = 420$,

$\frac{420}{7} \cdot 4 = 240$ //

*Questão 7 anulada

8) $\frac{8}{9} \cdot x = 104$

$x = \frac{104}{\frac{8}{9}} = \frac{104 \cdot 9}{8} = 117$

9) a) $\frac{1}{5} \overset{(.4)}{+} \frac{3}{4} \overset{(.5)}{=} \frac{4}{20} + \frac{15}{20} = \frac{19}{20}$ | b) $\frac{20}{20} - \frac{19}{20} = \frac{1}{20}$

10) a) $\frac{1}{3}\left(\frac{3}{5} + \frac{1}{2}\right) = \frac{1}{3}\left(\frac{6}{10} + \frac{5}{10}\right) = \frac{1}{3}\left(\frac{11}{10}\right) = \frac{11}{30}$

b) $\frac{5}{2} \cdot \left(\frac{4}{3} - \frac{3}{4}\right) = \frac{5}{2}\left(\frac{16}{12} - \frac{9}{12}\right) = \frac{5}{2}\left(\frac{7}{12}\right) = \frac{35}{24}$

c) $\left(\frac{5}{4} - \frac{1}{2}\right) \cdot \left(\frac{1}{3} + \frac{2}{5}\right) = \left(\frac{5}{4} - \frac{2}{4}\right) \cdot \left(\frac{5}{15} + \frac{6}{15}\right) = \frac{3}{4} \cdot \frac{11}{15} = \frac{33}{60} = \frac{11}{20}$

d) $\left(\frac{1}{4}+\frac{1}{2}\right) \div \left(\frac{3}{2}+3\right) = \left(\frac{1}{4}+\frac{2}{4}\right) \div \left(\frac{3}{2}+\frac{6}{2}\right) = \frac{3}{4} \div \frac{9}{2} = \frac{6}{36} = \frac{1}{6}$

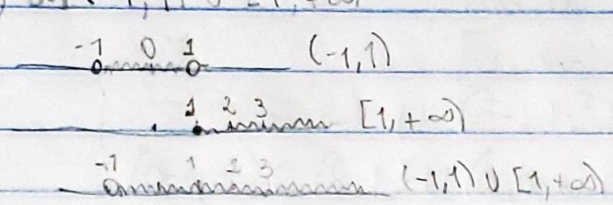
e) $\left(\frac{1}{2}-\frac{1}{6}\right) \div \left(\frac{1}{3}-\frac{1}{4}\right) = \left(\frac{3}{6}-\frac{1}{6}\right) \div \left(\frac{4}{12}-\frac{3}{12}\right) = \frac{2}{6} \div \frac{1}{12} = \frac{24}{6} = \frac{4}{1} = 4$

g) $\frac{5}{6}-\frac{4}{5}-\frac{7}{15}+\frac{1}{2}+\frac{1}{3} = \frac{25}{30}-\frac{24}{30}-\frac{14}{30}+\frac{15}{30}+\frac{10}{30} = \frac{12}{30} = \frac{2}{5}$

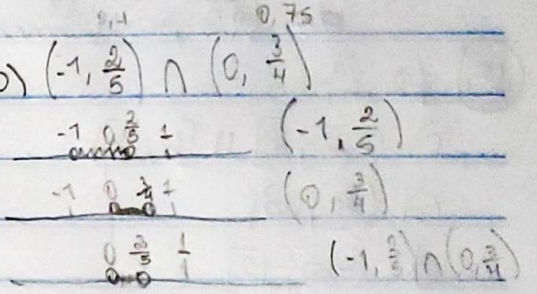
(11) a) $7 \cdot \frac{2}{3} + \frac{16}{12} \cdot \frac{5}{4} = \frac{14}{3} + 4 \cdot \frac{5}{3} = \frac{14}{3} + \frac{20}{3} = \frac{34}{3} \cong 11,33$

b) $5 - \left(2 \div \frac{5}{3}\right) = 5 - \frac{6}{5} = \frac{25}{5} - \frac{6}{5} = \frac{19}{5} = 3,8$

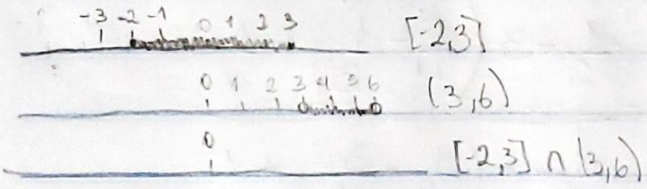
(12) a) $(-1,1) \cup [1,+\infty)$



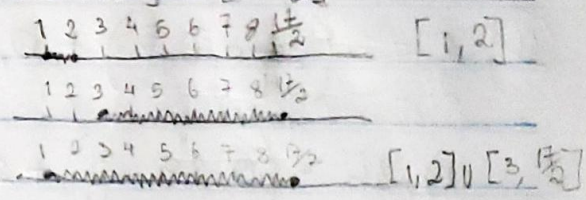
b) $\left(-1,\frac{2}{5}\right) \cap \left(0,\frac{3}{4}\right)$



c) $[-2,3] \cap (3,6)$

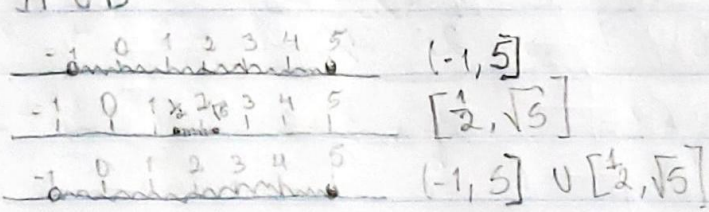


d) $[-1,2] \cup \left[3,\frac{17}{2}\right]$

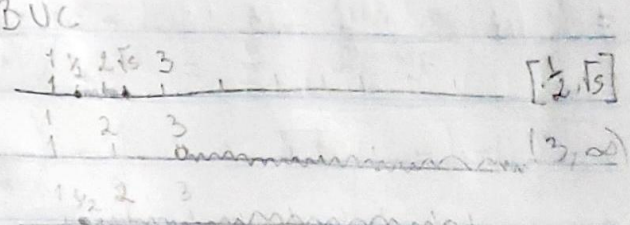


(13) $A=(-1,5]$ | $B=\left[\frac{1}{2},\sqrt{5}\right]$ | $C=(3,\infty)$

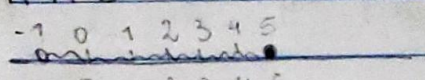
A ∪ B



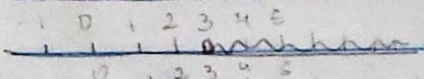
B ∪ C



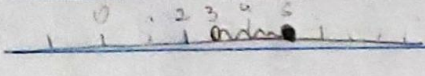
A ∩ C



$[-1, 5]$

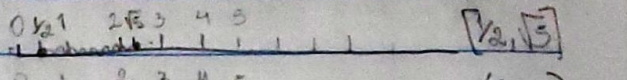


$(3, \infty)$



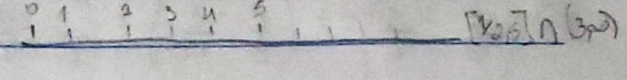
$(-1, 5] \cap (3, \infty)$

B ∩ C



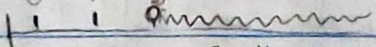
$[\frac{1}{2}, \sqrt{5}]$

$(3, \infty)$

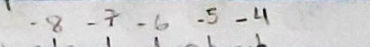


$[\frac{1}{2}, 5] \cap (3, \infty)$

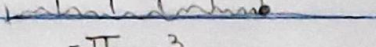
(14) a) $A = (2, +\infty)$



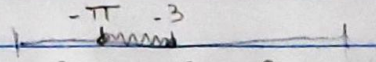
b) $C = (-\infty, -4]$



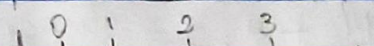
c) $E = [-\pi, -3]$



d) $G = (2, 1)$



e) $I = (-\infty, -3]$

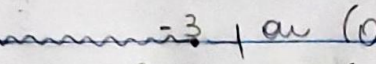


ou $(0, 5]$

f) $K = (-\infty, -2]$

ou $(1, +\infty)$

g) $M = (-\infty, 0)$



ou $(\sqrt{2}, \pi)$

ou $(\sqrt{2}, +\infty)$

(15) a) $(2, 6)$

b) $(-\infty, 2] \cup [6, \infty)$

c) $(\frac{2}{3}, \infty)$

d) $(-\infty, -12]$

e) $[-1, 5)$

f) $(0, \infty)$

g) $(-\infty, 0]$

h) $[-6, -3) \cup (-1, \infty)$

i) $(-\infty, 0) \cup (1, 2) \cup (3, \infty)$

j) $[0, 1] \cup [2, 3]$

(16) $$\frac{\frac{1}{2} - 3\left(\frac{1}{4} - 0,\overline{3}\right) + 0,125}{0,16 - \left(0,25 \cdot \frac{3}{4}\right) + 1} = \frac{\frac{1}{2} - 3\left(\frac{1}{4} - \frac{1}{3}\right) + \frac{1}{8}}{\frac{1}{6} - \left(\frac{1}{4} \cdot \frac{3}{4}\right) + 1}$$

$$= \frac{\frac{1}{2} - 3\left(\frac{3}{12} - \frac{4}{12}\right) + \frac{1}{8}}{\frac{1}{6} - \left(-\frac{2}{4 \div 2}\right) + 1} = \frac{\frac{1}{2} - 3\left(\frac{-1}{12}\right) + \frac{1}{8}}{\frac{1}{6} - \left(-\frac{1}{2}\right) + 1} = \frac{\frac{1}{2} + \frac{3}{12} + \frac{1}{8}}{\frac{1}{6} + \frac{1}{2} + 1} = \frac{\frac{1}{2}^{(\cdot 4)} + \frac{1}{4}^{(\cdot 2)} + \frac{1}{8}}{\frac{1}{6}^{(\cdot 2)} + \frac{1}{2}^{(\cdot 6)} + 1^{(\cdot 12)}}$$

$$= \frac{\frac{4}{8} + \frac{2}{8} + \frac{1}{8}}{\frac{2}{12} + \frac{6}{12} + \frac{12}{12}} = \frac{\frac{7}{8}}{\frac{20}{12} \div 4} = \frac{\frac{7}{8}}{\frac{5}{3}} = \frac{7}{8} \cdot \frac{3}{5} = \frac{21}{40}$$