1/2

Clase 11 - Actividad

II.d.1.1 Expresar en forma decimal

a) $\frac{15}{20}$ b) $\frac{3}{5}$ c) $\frac{5}{11}$ d) $\frac{4}{23}$

0,75 0,6 0,4545... $0,\overline{1739}...$

II.d.1.2 Expresar en forma racional

a) 1,222... b) 0,341341341... c) 0,53333...

$\frac{11}{9}$ $\frac{341}{999}$ $\frac{8}{15}$

d) 3,100701 e) 12,9 f) 36,3636... g) 0,767676...

$\frac{30691}{9900}$ $\frac{129}{10}$ $\frac{400}{11}$ $\frac{76}{99}$

II.d.1.3 Resolver los siguientes cálculos combinados y expresar el resultado como número racional con su mínima expresión.

a) $\frac{0,\overline{2} + 1,\overline{1}}{0,\overline{6}} - 0,5 = \frac{\frac{2}{9} + \frac{10}{9}}{0,\overline{6}} - 0,5 = \frac{\frac{4}{3}}{0,\overline{6}} - 0,5 = \frac{4}{3 \cdot 0,\overline{6}} - 0,5 =$

$\frac{4}{3 \cdot \frac{2}{3}} - 0,5 = \frac{4}{2} - 0,5 = 2 - 0,5 = 1,5$

b) $\frac{(0,1\overline{2} + 0,\overline{1})^2}{0,00\overline{7}} = \frac{\left(\frac{11}{90} + \frac{1}{9}\right)^2}{0,00\overline{7}} = \frac{\left(\frac{7}{30}\right)^2}{0,00\overline{7}} = \frac{\frac{49}{900}}{0,00\overline{7}} = \frac{49}{900 \cdot 0,00\overline{7}} =$

$\frac{49}{900 \cdot \frac{1}{900}} = \frac{49}{1} = 7$

c) $\frac{\left|0,5\overline{4}+\frac{3}{5}\right|^2}{0,10\overline{8}} = \frac{\left|\frac{49}{90}+\frac{3}{5}\right|^2}{0,10\overline{8}} = \frac{\left|\frac{103}{90}\right|^2}{0,10\overline{8}} = \frac{\frac{10609}{8100}}{0,10\overline{8}} =$

$\frac{10609}{8100 \cdot 0,10\overline{8}} = \frac{10609}{8100 \cdot \frac{49}{450}} = \frac{10609}{18 \cdot 49} = \frac{10609}{882} = 12,028$

d) $\sqrt{\frac{0,\overline{8}}{(0,00\overline{7})^3}} = ?$

II.d.1.4. Guía de ejercicios con operaciones de números racionales

a) $\frac{2}{3} + \frac{4}{7} - \frac{9}{5} = \frac{70+60-189}{105} = \frac{-59}{105} = -\frac{59}{105}$

b) $\frac{11}{2} + \frac{3}{5} = \frac{55+6}{10} = \frac{61}{10}$

c) $\frac{11}{2} : \frac{6}{7} = \frac{11}{2} \cdot \frac{7}{6} = \frac{77}{12}$

d) $-\frac{4}{5} \cdot \left(\frac{7}{3}+\frac{5}{4}\right) = -\frac{4}{5} \cdot \left(\frac{28+15}{12}\right) = -\frac{4}{5} \cdot \frac{43}{12} = -\frac{1}{5} \cdot \frac{43}{3} = -\frac{43}{15}$

e) $-\frac{3}{4}\cdot\left[\frac{4}{3}\left|\frac{1}{2}-\frac{1}{3}\right|+\frac{2}{7}\right]=-\frac{3}{4}\cdot\left[\frac{4}{3}\cdot\frac{1}{6}+\frac{2}{7}\right]=-\frac{3}{4}\cdot\left[\frac{2}{3}\cdot\frac{1}{3}+\frac{2}{7}\right]=$

$-\frac{3}{4}\cdot\left[\frac{2}{9}+\frac{2}{7}\right]=-\frac{3}{4}\cdot\left[\frac{14+18}{63}\right]=-\frac{3}{4}\cdot\frac{32}{63}=-\frac{8}{21}$

f) $\frac{\frac{11}{27}-\frac{3}{4}}{\frac{11}{29}+\frac{8}{3}}-\frac{14}{3}\cdot\left(1-\frac{2}{3}\right|=\frac{44-81}{108}=$

$\frac{33+232}{87}$

$-\frac{14}{3}\cdot\frac{1}{3}=$

$\frac{-\frac{37}{108}}{\frac{265}{87}}-\frac{14}{9}=\frac{-\frac{37}{108}}{\frac{265}{87}}-\frac{14}{9}=\left|\frac{-37:265}{108\quad 87}\right|-\frac{14}{9}=$

$\left(-\frac{37}{108}\cdot\frac{87}{265}\right|-\frac{14}{9}=\left|-\frac{3219}{28620}\right|-\frac{14}{9}=\left|\frac{3219:3}{28620:3}\right|-\frac{14}{9}=$

$-\frac{1073}{9540}-\frac{14}{9}=-\frac{1073+14840}{9540}=-\frac{15913}{9540}$

g) $8-\frac{\frac{2}{5}-\frac{1}{9}}{\frac{7}{6}}+\frac{1}{24}\left(\frac{9}{4}-\frac{2}{5}\right|=8-\frac{\frac{18-5}{45}}{\frac{7}{6}}+\frac{1}{21}\cdot\left|\frac{45-8}{20}\right|=$

$8-\frac{\frac{13}{45}}{\frac{7}{6}}+\frac{1}{21}\cdot\frac{37}{20}=8-\left|\frac{13}{45}:\frac{7}{6}\right|+\frac{37}{420}=8-\left|\frac{13}{45}\cdot\frac{6}{7}\right|+\frac{37}{420}=$

$8 - \frac{26}{105} + \frac{37}{420} = \frac{3360 - 104 + 37}{420} = \frac{3293}{420}$

Ejercicios Anex. de II. d.1.1. y d.1.2.

a)

15 | 20
150 | 0,75
140
100
-100
0

b)

3 | 5
30 | 0,6
-30
0

c)

5 | 11
50 | 0,4545...
44
60
-55
50
44
60
-55
5

d)

4 | 23
40 | 0,1739...
23
170
-161
90
-69
210
207
3

a) $1,\overline{2}$

$-12,\overline{2}$

$1,\overline{2}$

$\frac{11}{9}$

b) $0,\overline{341}$

$1000X = 341,\overline{341}$

$X = 0,\overline{341}$

$\frac{341}{999}$

c) $X = 0,5\overline{3}$

$10X = 5,\overline{3}$

$100X = 53,\overline{3}$

$-10X = 5,\overline{3}$

$90X = 48$

$X = \frac{48}{90}$

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

d) $3,100\overline{7}$

$10000X = 31001,\overline{07}$

$-100X = 310,\overline{07}$

$9900X = 30691$

$X = \frac{30691}{9900}$

e) $12,9$

$10X = 129$

$X = \frac{129}{10}$

f) $36,\overline{36}$

$100X = 3636,\overline{36}$

$-X = 36,\overline{36}$

$99X = 3600$

$X = \frac{3600}{99}$

g) $0,\overline{76}$

$100X = 76,\overline{76}$

$-X = 0,\overline{76}$

$99X = 76$

$X = \frac{76}{99}$