Clase 11 - Actividad

Grupo 24).

11.d.1.1) expresar en forma decimal.

c) $5/11 = 0,\overline{45}$

11.d.1.2) expresar en forma racional.

e) 12,9 $\quad 10x = 12,9 \cdot 10$

$10x = 129$ $\quad x = \frac{129}{10}$

$x = \frac{129}{10} = 12,9$

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

d). $\sqrt{\frac{0,\overline{8}}{(0,00\overline{7})^2}} =$

1ux: $10x = 0,\overline{8} \cdot 10$

$10x = 8,\overline{8}$ $\quad x = \frac{8}{9}$

$x = 0,\overline{8} \cdot 1$

$x = 0,\overline{8}$

$10x = 8,\overline{8}$

$x = 0,\overline{8}$

$9x = 8$

$\sqrt{\frac{\frac{8}{9}}{\left(\frac{7}{900}\right)^2}} = \frac{\sqrt{\frac{8}{9}}}{\sqrt{\left(\frac{7}{900}\right)^2}} = \frac{\frac{\sqrt{4 \cdot 2}}{\sqrt{9}}}{\sqrt{\frac{7}{900}}\sqrt{\frac{7^2}{900^2}}}$

2ux: $1000x = 0,00\overline{7} \cdot 1000$

$1000x = 7,\overline{7}$ $\quad \frac{7}{900}$

$100x = 0,00\overline{7} \cdot 100$

$100x = 0,\overline{7}$

$1000x = 7,\overline{7}$

$100x = 0,\overline{7}$

$900x = 7$

$\frac{\frac{2\sqrt{2}}{3}}{\frac{7\sqrt{7}}{900\sqrt{900}}} = \frac{2\sqrt{2}}{3} \cdot \frac{900 \cdot 30}{7\sqrt{7}} \Rightarrow$

[illegible]

$$\frac{\sqrt{2}}{\sqrt{7}} \cdot \frac{\sqrt{7}}{\sqrt{7}} = \frac{\sqrt{14}}{7}$$

c). $$\frac{\left(0,5\overline{4} + \frac{2}{5}\right)^2}{0,10\overline{8}} = \frac{\left(\frac{49}{90} + \frac{3}{5}\right)^2}{\frac{49}{450}}$$

$$\frac{\left(\frac{49+3 \cdot 18}{90}\right)^2}{\frac{49}{450}} = \frac{\left(\frac{49+54}{90}\right)^2}{\frac{49}{450}} = \frac{\left(\frac{103}{90}\right)^2}{\frac{49}{450}}$$

$$\left(\frac{103}{90}\right)^2 \cdot \frac{450}{49} = \frac{103 \cdot 103 \cdot 450}{90 \cdot 90 \cdot 49} =$$

$$\frac{10609}{882}$$

$x = 0,5\overline{4}$

$10x = 0,5\overline{4} \cdot 10$

$10x = 5,\overline{4}$

$100x = 0,5\overline{4} \cdot 100$

$100x = 54,\overline{4}$

$100x = 54,\overline{4}$

$10x = 5,\overline{4}$

$90x = 49$

$x = \frac{49}{90}$

$x = 0,10\overline{8}$

$100x = 0,10\overline{8} \cdot 100$

$100x = 10,\overline{8}$

$1000x = 0,10\overline{8} \cdot 1000$

$1000x = 108,\overline{8}$

$1000x = 108,\overline{8}$

$- \; 100x = 10,\overline{8}$

$900x = 98$

$x = \frac{98}{900} = \frac{49}{450}$

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

d). $\frac{4}{5} \cdot \left(\frac{7}{3} + \frac{5}{4}\right)$

$= \frac{4}{5} \cdot \left(\frac{7 \cdot 4 + 5 \cdot 3}{3 \cdot 4}\right) = \frac{4}{5} \cdot (7+5) = \frac{4}{5} \cdot \frac{12}{1} = \frac{48}{5}$

g). $\frac{8 \cdot \overbrace{\frac{2}{5} - \frac{1}{9}}^{(1)}}{\frac{7}{6}} + \overbrace{\frac{1}{21}\left(\frac{9}{4} - \frac{2}{5}\right)}^{(2)} =$

(1) $\frac{2}{5} - \frac{1}{9} = \frac{2}{5} + \left(-\frac{1}{9}\right) = \frac{2 \cdot 9 - 1 \cdot 5}{5 \cdot 9} = \frac{18 - 5}{45} = \frac{13}{45}$

$\frac{\frac{13}{45}}{\frac{7}{6}} = \frac{13}{45} \cdot \frac{6}{7} = \frac{13}{15} \cdot \frac{2}{7} = \frac{26}{105}$

$8 \cdot \frac{26}{105} = \frac{8}{1} \cdot \frac{26}{105} = \frac{208}{105}$

(2) $\frac{9}{4} + \left(\frac{2}{5}\right) = \frac{9 \cdot 5 - 2 \cdot 4}{4 \cdot 5} = \frac{45 - 8}{20} = \frac{37}{20}$

$\frac{1}{21} \cdot \frac{37}{20} = \frac{37}{420}$ $\quad \frac{26}{105} + \frac{37}{420} = \frac{13}{105} + \frac{37}{210} = \frac{13 \cdot 210 + 37 \ldots}{105 \cdot 210}$

$\frac{2730 + 3885}{22050} = \frac{6615}{22050} = \frac{2205}{7350} = \frac{315}{1050} = \frac{45}{150} = \frac{9}{30} = \frac{3}{10}$