

- 37. Escribe tres fracciones equivalentes a cada una de las siguientes:

a) $\frac{3}{2}$ c) $\frac{2}{5}$ e) $\frac{12}{18}$
 b) $\frac{1}{4}$ d) $\frac{3}{6}$ f) $\frac{1}{7}$

- 38. Determina si las siguientes fracciones son equivalentes:

a) $\frac{18}{24}$ y $\frac{15}{20}$ c) $\frac{27}{45}$ y $\frac{22}{40}$
 b) $\frac{14}{21}$ y $\frac{16}{24}$ d) $\frac{32}{24}$ y $\frac{20}{15}$

- 39. Ordena de mayor a menor las siguientes fracciones:

$$\frac{1}{3}, \frac{4}{5}, \frac{2}{5}, \frac{5}{6}$$

- 40. Representa en una recta las siguientes fracciones:

a) $\frac{2}{3}$ b) $\frac{4}{5}$ c) $\frac{3}{7}$ d) $\frac{7}{4}$

- 41. Calcula el valor de x en cada caso:

a) $\frac{3}{4} = \frac{x}{20}$ c) $\frac{3}{9} = \frac{5}{x}$
 b) $\frac{12}{x} = \frac{14}{21}$ d) $\frac{x}{21} = \frac{36}{27}$

- 42. Realiza las siguientes sumas de fracciones y simplifica el resultado, si es posible:

a) $\frac{3}{4} + \frac{1}{2} + \frac{5}{6} - 1$ f) $\frac{2}{5} - \frac{3}{25} + \frac{1}{4}$
 b) $2 - \frac{1}{6} - \frac{3}{2} + \frac{1}{4}$ g) $\frac{5}{3} + \frac{6}{7} - \frac{3}{4} - 1$
 c) $\frac{5}{8} - \frac{7}{12} + \frac{5}{6} - \frac{3}{4}$ h) $\frac{5}{8} - \frac{1}{4} + \frac{3}{2} - \frac{5}{3}$
 d) $\frac{1}{5} - \frac{7}{10} + \frac{3}{4}$ i) $\frac{2}{5} - \frac{5}{4} + \frac{3}{10} + 2$
 e) $\frac{2}{3} - 1 + \frac{1}{15} - \frac{3}{10}$ j) $-\frac{4}{5} + \frac{1}{6} - \frac{3}{4} + \frac{2}{3} - \frac{1}{2}$

- 43. Realiza las siguientes operaciones de fracciones y simplifica el resultado, si es posible:

a) $\frac{3}{2} - \frac{1}{3} \cdot \frac{6}{5} + \frac{2}{5} \cdot \frac{7}{4}$ d) $\frac{5}{4} - \frac{1}{2} \cdot \frac{4}{5} - \left(\frac{3}{2}\right)^2$
 b) $\frac{2}{3} - \frac{1}{2} \left(\frac{3}{4} + \frac{1}{2} - 1\right)$ e) $\frac{3}{4} - \frac{2}{3} \cdot \left(\frac{1}{4} - \frac{1}{2} \cdot \frac{4}{3}\right)$
 c) $\frac{3}{5} - \frac{2}{3} : \left(1 - \frac{5}{3}\right) - \frac{5}{6}$ f) $\frac{1}{6} - \frac{3}{4} + \frac{1}{2} \left(2 - \frac{8}{5} - \frac{7}{3}\right)$

- 44. Calcula y simplifica el resultado, si es posible:

a) $\frac{\frac{1}{2}}{\frac{2}{3} - \frac{4}{4}}$ c) $\frac{2}{\frac{2}{3} - \frac{5}{4}}$ e) $\frac{\frac{1}{3} - \frac{3}{5}}{4}$
 b) $\frac{1 - \frac{3}{5}}{\frac{2}{5}}$ d) $\frac{1 - \frac{8}{3}}{\frac{1}{4} - 2}$ f) $\frac{\frac{3}{4} - \frac{1}{2} \cdot \frac{5}{3}}{\frac{5}{4}}$

- 45. Calcula y simplifica el resultado, si es posible:

a) $\frac{\frac{2}{3} - 2 \left(\frac{1}{5} - \frac{1}{4}\right)}{3}$ c) $\frac{\frac{2}{5} - 1}{1 - \frac{3}{4}}$

b) $\frac{\frac{3}{4} - \frac{1}{6}}{\frac{2}{3} - \frac{1}{2} \left(1 - \frac{1}{3}\right)}$ d) $\frac{3}{\frac{2}{3} - \frac{5}{6}}$

- 46. Calcula y simplifica el resultado si es posible:

a) $\frac{1}{1 - \frac{1}{1 - \frac{1}{3}}}$ c) $\frac{3}{\frac{1}{4} + \frac{1}{1 - \frac{3}{2}}}$
 b) $\frac{\frac{1}{1 - \frac{4}{5}}}{1 + \frac{1}{1 + \frac{1}{1 + \frac{3}{2}}}}$ d) $\frac{\frac{2}{3}}{1 - \frac{1}{1 - \frac{1}{1 - \frac{3}{4}}}}$

Los números decimales

- 47. Indica la expresión decimal de las siguientes fracciones:

a) $\frac{7}{6}$ b) $\frac{1}{15}$ c) $\frac{5}{3}$ d) $\frac{9}{11}$

- 48. Encuentra dos números decimales comprendidos entre:

a) 2'31 y 2'311 c) -0'451 y -0'45
 b) 0'3511 y 0'35111 d) -3'7101 y -3'71

- 49. Realiza las siguientes operaciones compuestas por números decimales:

a) 7'234 - 2'3 · 3'18 b) 2'15 - 1'1375 : 0'35

SOLUCIONES

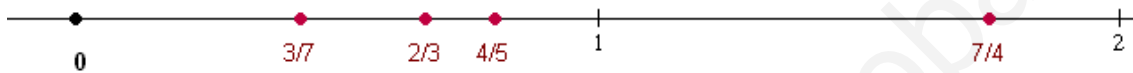
37. a) $\frac{6}{4} \cdot \frac{30}{20} \cdot \frac{300}{200}$ b) $\frac{2}{3} \cdot \frac{10}{40} \cdot \frac{100}{400}$ c) $\frac{4}{10} \cdot \frac{20}{50} \cdot \frac{200}{500}$

d) $\frac{6}{12} \cdot \frac{30}{60} \cdot \frac{300}{600}$ e) $\frac{24}{35} \cdot \frac{120}{180} \cdot \frac{1200}{1800}$ f) $\frac{2}{14} \cdot \frac{10}{70} \cdot \frac{100}{700}$

38. a) No b) Sí c) No d) Sí

39. $\frac{5}{6} > \frac{4}{5} > \frac{2}{3} > \frac{1}{3}$

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41. a) $x = 20 \cdot \frac{3}{4} = 15$ b) $x = 21 \cdot \frac{12}{14} = 18$ c) $x = \frac{9 \cdot 5}{3} = 15$ d) $x = \frac{21 \cdot 36}{27} = 28$

42. a) $\frac{9}{12} + \frac{6}{12} + \frac{10}{12} - \frac{12}{12} = \frac{13}{12}$ b) $\frac{24}{12} - \frac{2}{12} - \frac{18}{12} + \frac{3}{12} = \frac{7}{12}$ c) $\frac{15}{24} - \frac{14}{24} + \frac{20}{24} - \frac{18}{24} = \frac{3}{24} = \frac{1}{8}$

d) $\frac{4}{20} - \frac{14}{20} + \frac{15}{20} = \frac{5}{20} = \frac{1}{4}$ e) $\frac{20}{30} - \frac{30}{30} + \frac{2}{30} - \frac{9}{30} = -\frac{17}{30}$ f) $\frac{40}{100} - \frac{12}{100} + \frac{25}{100} = \frac{53}{100}$

g) $\frac{140}{84} + \frac{72}{84} - \frac{63}{84} - \frac{84}{84} = \frac{65}{84}$ h) $\frac{15}{24} - \frac{8}{24} + \frac{32}{24} - \frac{40}{24} = \frac{5}{24}$ i) $\frac{8}{20} - \frac{25}{20} + \frac{6}{20} + \frac{40}{20} = \frac{29}{20}$

j) $-\frac{48}{60} + \frac{10}{60} - \frac{15}{60} - \frac{40}{60} - \frac{30}{60} = -\frac{73}{60}$

43. a) $\frac{3}{2} - \frac{6}{15} + \frac{14}{20} = \frac{90}{60} - \frac{24}{60} + \frac{42}{60} = \frac{108}{60} = \frac{9}{5}$

b) $\frac{2}{3} - \frac{1}{2} \left(\frac{3}{4} + \frac{2}{4} - \frac{4}{4} \right) = \frac{2}{3} - \frac{1}{2} \left(\frac{1}{4} \right) = \frac{16-3}{24} = \frac{13}{24}$

c) $\frac{3}{5} - \frac{2}{\left(\frac{5}{5} - \frac{5}{5}\right)} - \frac{5}{6} = \frac{3}{5} + \frac{6}{2} - \frac{5}{6} = \frac{18}{30} + \frac{90}{30} - \frac{25}{30} = \frac{23}{30}$

d) $\frac{5}{4} - \frac{4}{10} - \frac{9}{4} = \frac{25}{20} - \frac{8}{20} - \frac{45}{20} = \frac{28}{20} = -\frac{7}{5}$

e) $\frac{3}{4} - \frac{2}{3} \left(\frac{1}{4} - \frac{4}{6} \right) = \frac{3}{4} - \frac{2}{3} \frac{6-16}{24} = \frac{3}{4} - \frac{-20}{72} = \frac{54+20}{72} = \frac{37}{36}$

$$f) \frac{1}{6} - \frac{3}{4} + \frac{1}{2} \left(\frac{30}{15} - \frac{24}{15} - \frac{35}{15} \right) = \frac{1}{6} - \frac{3}{4} + \frac{1}{2} \cdot \frac{-29}{15} = \frac{1}{6} - \frac{3}{4} - \frac{29}{30} = \frac{20-90-116}{120} = -\frac{186}{120} = -\frac{31}{20}$$

$$44. a) \frac{2}{3}$$

$$b) \frac{\frac{5}{12} \cdot \frac{5}{12}}{\frac{5}{12}} - 1$$

$$c) \frac{2}{\frac{5}{12} \cdot \frac{15}{12}} = -\frac{24}{7}$$

$$d) \frac{\frac{5}{12} \cdot \frac{5}{12}}{\frac{1}{4} \cdot \frac{5}{4}} = \frac{\frac{5}{7}}{\frac{5}{4}} = \frac{20}{21}$$

$$e) \frac{\frac{5}{12} \cdot \frac{5}{12}}{\frac{1}{4}} = \frac{-4}{4} = -\frac{1}{15}$$

$$f) \frac{\frac{5}{12} \cdot \frac{5}{12}}{\frac{1}{4}} = \frac{\frac{5-10}{4}}{\frac{1}{4}} = \frac{-4}{60} = -\frac{1}{15}$$

$$45. a) \frac{\frac{2}{3} - 2 \cdot \left(\frac{4}{5} - \frac{5}{20} \right)}{\frac{3}{5}} = \frac{\frac{2}{3} - \frac{1}{3}}{\frac{3}{5}} = \frac{\frac{20-3}{30}}{\frac{3}{5}} = \frac{23}{90}$$

$$b) \frac{\frac{18}{5} \cdot \frac{4}{5}}{\frac{24}{5} \cdot \left(\frac{5}{5} - \frac{5}{20} \right)} = \frac{\frac{72}{25}}{\frac{24}{5} \cdot \frac{3}{4}} = \frac{2 \cdot 7 \cdot 3}{3 \cdot 4 \cdot 2} = \frac{7}{4}$$

$$c) \frac{\frac{5}{12} \cdot \frac{5}{12}}{\frac{1}{4} \cdot \frac{5}{4}} = \frac{-3}{1} = -\frac{3}{20}$$

$$d) \frac{\frac{3}{4} \cdot \frac{5}{6}}{\frac{1}{6}} = \frac{\frac{3}{1} \cdot \frac{5}{6}}{-\frac{1}{1}} = -\frac{1}{2}$$

$$46. a) \frac{1}{1 - \frac{2}{2}} = \frac{1}{1 - \frac{2}{2}} = \frac{1}{1 - \frac{2}{2}} = \frac{1}{-\frac{1}{2}} = -2$$

$$b) \frac{\frac{\frac{5}{12} \cdot \frac{5}{12}}{1 + \frac{2}{12}}}{1 + \frac{\frac{5}{12} \cdot \frac{5}{12}}{1 + \frac{2}{12}}} = \frac{\frac{\frac{5}{12} \cdot \frac{5}{12}}{1 + \frac{2}{12}}}{1 + \frac{\frac{5}{12} \cdot \frac{5}{12}}{1 + \frac{2}{12}}} = \frac{\frac{5}{12}}{1 + \frac{2}{12}} = \frac{5}{12} \cdot \frac{12}{12} = \frac{5}{10} = \frac{5}{5} = \frac{5}{5} = \frac{5}{5} = \frac{5}{4} = \frac{35}{17}$$

$$c) \frac{\frac{3}{4} \cdot \frac{5}{6}}{\frac{1}{2} \cdot \frac{5}{6}} = \frac{\frac{3}{4}}{\frac{1}{2}} = \frac{3}{2} = \frac{3}{4} = \frac{3}{4} = -\frac{12}{7}$$

$$d) \frac{\frac{\frac{5}{12} \cdot \frac{5}{12}}{1 - \frac{2}{12}}}{1 - \frac{\frac{5}{12} \cdot \frac{5}{12}}{1 - \frac{2}{12}}} = \frac{\frac{\frac{5}{12} \cdot \frac{5}{12}}{1 - \frac{2}{12}}}{1 - \frac{\frac{5}{12} \cdot \frac{5}{12}}{1 - \frac{2}{12}}} = \frac{\frac{5}{12}}{1 - \frac{2}{12}} = \frac{5}{12} \cdot \frac{12}{12} = \frac{5}{10} = \frac{5}{5} = \frac{5}{4} = \frac{35}{17}$$

Los números decimales.

$$47. a) 1'1\bar{6} \quad b) 0'0\bar{6} \quad c) 1'\bar{6} \quad d) 0'\bar{8}\bar{1}$$

$$48. a) 2'31000234, 2'31000006765 \quad b) 0'3511002, 0'3511003$$

$$c) -0'4505, -0'04506 \quad d) -3'71002, -3'71007$$

$$49. a) -0'08 \quad b) -1'1$$