

Ex 41 p 86

$$a) \frac{1}{3} + \frac{4}{3} = \frac{5}{3}$$

$$b) \frac{11}{7} - \frac{15}{7} = \frac{-4}{7}$$

$$c) \frac{7}{12} - \frac{15}{12} - \frac{1}{12} = \frac{-9}{12} = \frac{-3 \times 3}{4 \times 3} = -\frac{3}{4}$$

$$d) \frac{6}{9} - \frac{5}{3} = \frac{6}{9} - \frac{5 \times 3}{3 \times 3} = \frac{6}{9} - \frac{15}{9} = \frac{-9}{9} = (-1)$$

$$e) \frac{5}{2} - \frac{4}{8} = \frac{5 \times 4}{2 \times 4} - \frac{4}{8} = \frac{20}{8} - \frac{4}{8} = \frac{16}{8} = 2$$

$$\text{OU } \frac{5}{2} - \frac{4}{8} = \frac{5}{2} - \frac{1}{2} = \frac{4}{2} = 2$$

$$f) \frac{7}{3} - \frac{16}{6} - \frac{12}{9} = \frac{7 \times 6}{3 \times 6} - \frac{16 \times 3}{6 \times 3} - \frac{12 \times 2}{9 \times 2} = \frac{42}{18} - \frac{48}{18} - \frac{24}{18} = \frac{-30}{18} \\ = \frac{-5}{3}$$

Ex 42 p 86 En observant les calculs, nous observons que pour les a. b. et e, les dénominateurs sont multiples l'un de l'autre : nous utiliserons la méthode de 5°.

$$a) \frac{1}{4} + \frac{3}{8} = \frac{1 \times 2}{4 \times 2} + \frac{3}{8} = \frac{2}{8} + \frac{3}{8} = \frac{5}{8}$$

$$b) \frac{1}{5} - \frac{7}{15} = \frac{1 \times 3}{5 \times 3} - \frac{7}{15} = \frac{3}{15} - \frac{7}{15} = \frac{-4}{15}$$

$$c) \frac{1}{3} + \frac{1}{4} = \frac{1 \times 4}{3 \times 4} + \frac{1 \times 3}{4 \times 3} = \frac{4}{12} + \frac{3}{12} = \frac{7}{12}$$

$$d) \frac{4}{5} - \frac{5}{4} = \frac{4 \times 4}{5 \times 4} - \frac{5 \times 5}{4 \times 5} = \frac{16}{20} - \frac{25}{20} = \frac{-9}{20}$$

$$e) \frac{1}{3} + \frac{1}{6} - \frac{5}{9} = \frac{1 \times 2}{3 \times 2} + \frac{1}{6} - \frac{5}{9} = \frac{2}{6} + \frac{1}{6} - \frac{5}{9} = \frac{3}{6} - \frac{5}{9} \\ = \frac{1}{2} - \frac{5}{9} = \frac{1 \times 9}{2 \times 9} - \frac{5 \times 2}{9 \times 2} = \frac{9}{18} - \frac{10}{18} = \frac{-1}{18}$$

$$f) \frac{7}{2} - \frac{1}{3} + \frac{3}{4} = \frac{7 \times 3}{2 \times 3} - \frac{1 \times 2}{3 \times 2} + \frac{3}{4} = \frac{21}{6} - \frac{2}{6} + \frac{3}{4} = \frac{19}{6} + \frac{3}{4} \\ = \frac{19 \times 2}{6 \times 2} + \frac{3 \times 3}{4 \times 3} = \frac{38}{12} + \frac{9}{12} = \frac{47}{12}$$

$$\text{ou } \frac{7}{2} - \frac{1}{3} + \frac{3}{4} = \frac{7 \times 6}{2 \times 6} - \frac{1 \times 4}{3 \times 4} + \frac{3 \times 3}{4 \times 3} = \frac{42}{12} - \frac{4}{12} + \frac{9}{12} = \frac{47}{12}$$

Ex 43 p 86

$$a) \frac{1}{2} + \frac{1}{3} = \frac{1 \times 3}{2 \times 3} + \frac{1 \times 2}{3 \times 2} = \frac{3}{6} + \frac{2}{6} = \frac{5}{6}$$

$$b) \frac{5}{7} + \frac{2}{5} = \frac{5 \times 5}{7 \times 5} + \frac{2 \times 7}{5 \times 7} = \frac{25}{35} + \frac{14}{35} = \frac{39}{35}$$

$$c) \frac{4}{3} - \frac{1}{2} = \frac{4 \times 2}{3 \times 2} - \frac{1 \times 3}{2 \times 3} = \frac{8}{6} - \frac{3}{6} = \frac{5}{6}$$

$$d) \frac{3}{5} - \frac{7}{10} = \frac{3 \times 2}{5 \times 2} - \frac{7}{10} = \frac{6}{10} - \frac{7}{10} = \frac{-1}{10} = (-0,1)$$

$$e) \frac{3}{4} - \frac{3}{5} = \frac{3 \times 5}{4 \times 5} - \frac{3 \times 4}{5 \times 4} = \frac{15}{20} - \frac{12}{20} = \frac{3}{20}$$

$$f) \frac{-2}{7} + \frac{5}{21} = \frac{-2 \times 3}{7 \times 3} + \frac{5}{21} = \frac{-6}{21} + \frac{5}{21} = \frac{-1}{21}$$

Ex 44 p 86

$$a) 1 + \frac{4}{3} = \frac{1 \times 3}{1 \times 3} + \frac{4}{3} = \frac{3}{3} + \frac{4}{3} = \frac{7}{3}$$

$$b) \frac{7}{3} - 6 = \frac{7}{3} - \frac{6 \times 3}{1 \times 3} = \frac{7}{3} - \frac{18}{3} = \frac{-11}{3}$$

$$c) 0,1 - \frac{6}{5} = \frac{1}{10} - \frac{6 \times 2}{5 \times 2} = \frac{1}{10} - \frac{12}{10} = \frac{-11}{10} = (-1,1)$$

$$d) -\frac{3}{15} - 1,6 = -\frac{3}{15} - \frac{16}{10} = \frac{-3 \times 2}{15 \times 2} - \frac{16 \times 3}{10 \times 3}$$
$$= \frac{-6}{30} - \frac{48}{30} = \frac{-54}{30} = \frac{-18}{10} = -1,8$$

Simplification
par 3

$$e) 0,28 + \frac{9}{100} - \frac{11}{50} = \frac{28}{100} + \frac{9}{100} - \frac{11 \times 2}{50 \times 2} = \frac{15}{100} = 0,15$$

Ex 45 p 86

$$a) \frac{4}{11} + \frac{\dots}{11} = \frac{10}{11}$$

$$b) \frac{17}{13} - \frac{\dots}{13} = \frac{-40}{\dots}$$

$$c) \frac{\dots}{7} - \frac{10}{7} = \frac{9}{\dots}$$

$$d) \frac{34}{\dots} - \frac{\dots}{21} = \frac{16}{21}$$

$$e) \frac{\dots}{5} - \frac{4}{15} = \frac{-10}{\dots}$$

$$f) \frac{\dots}{6} + \frac{\dots}{18} = \frac{8}{9}$$

Ex 45 p 86

$$a) \frac{4}{11} + \frac{6}{11} = \frac{10}{11}$$

$$b) \frac{17}{13} - \frac{57}{13} = \frac{-40}{13}$$

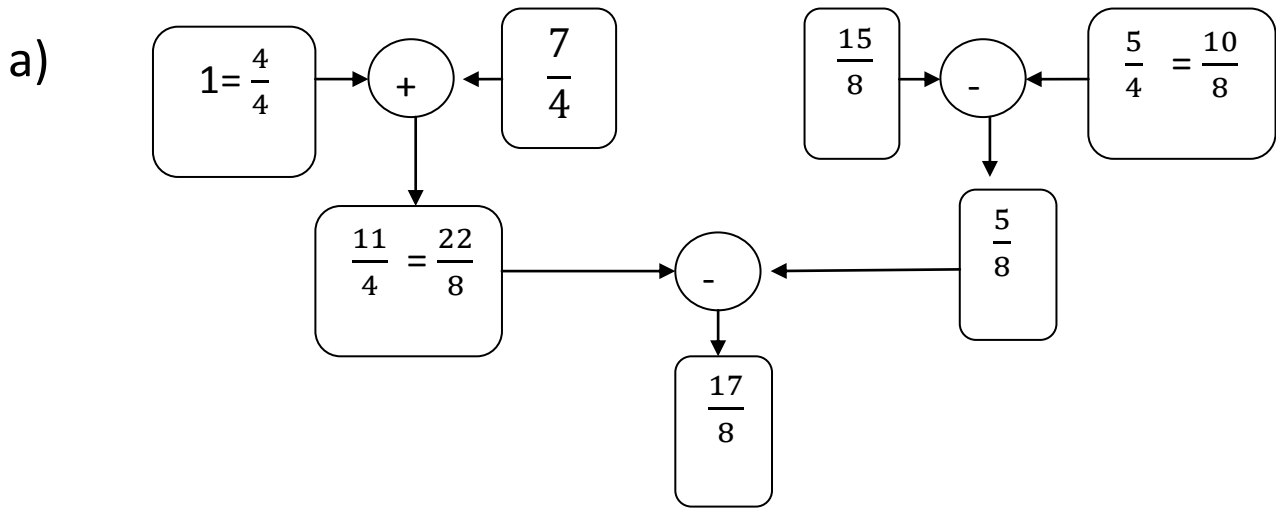
$$c) \frac{19}{7} - \frac{10}{7} = \frac{9}{7}$$

$$d) \frac{34}{21} - \frac{18}{21} = \frac{16}{21}$$

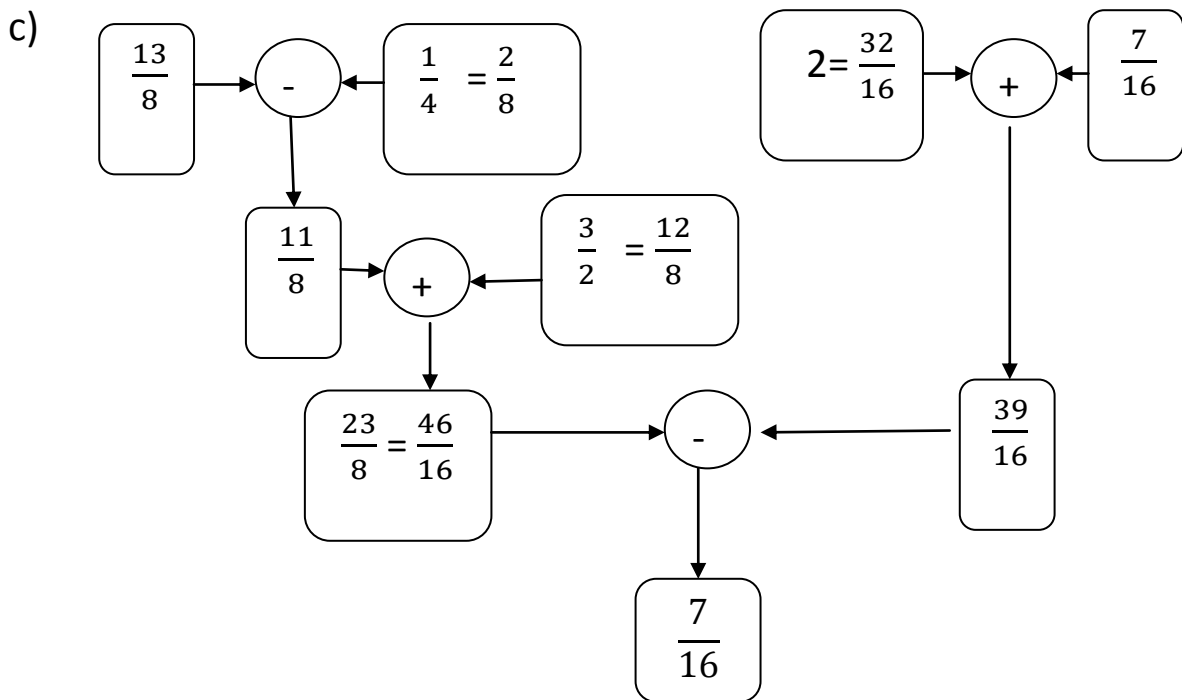
$$e) \frac{-2 \times 3}{5 \times 3} - \frac{4}{15} = \frac{-10}{15}$$

$$f) \frac{4 \times 3}{6 \times 3} + \frac{4}{18} = \frac{16}{18} = \frac{8}{9}$$

Ex 53 p 87



b) $(1 + \frac{7}{4}) - (\frac{15}{8} - \frac{5}{4})$



Ex 54 p 87

	a.	b.
Choisir un nombre	12	$\frac{1}{12}$
Multiplier ce nombre par 3	$12 \times 3 = 36$	$\frac{1}{12} \times 3 = \frac{3}{12} = \frac{1}{4}$
Ajouter 4 au résultat	$36 + 4 = 40$	$\frac{1}{4} + 4 = \frac{1}{4} + \frac{16}{4} = \frac{17}{4}$
Retraire $\frac{7}{6}$	$40 - \frac{7}{6} = \frac{40}{1} - \frac{7}{6} = \frac{240}{6} - \frac{7}{6} = \frac{233}{6}$	$\frac{17}{4} - \frac{7}{6} = \frac{17 \times 3}{4 \times 3} - \frac{7 \times 2}{6 \times 2} = \frac{51}{12} - \frac{14}{12} = \frac{37}{12}$

Ex 55 p 87

a. Les frais de compte représentent:

$$1 - \frac{1}{36} - \frac{2}{18} - \frac{1}{3} - \frac{4}{9} = \frac{1 \times 36}{1 \times 36} - \frac{2 \times 2}{18 \times 2} - \frac{1 \times 12}{3 \times 12} - \frac{4 \times 4}{9 \times 4}$$

$$= \frac{36}{36} - \frac{4}{36} - \frac{12}{36} - \frac{16}{36} = \frac{3}{36} = \frac{1}{12}$$

A l'œil, la part rose est bien plus grande que la part jaune et plus petite que la part bleue ($\frac{4}{36}$)

b. Les fournitures et la communication réunis est :

$$\frac{1}{3} + \frac{4}{9} = \frac{1 \times 12}{3 \times 12} + \frac{4 \times 4}{9 \times 4} = \frac{12}{36} + \frac{16}{36} = \frac{28}{36} = \frac{7 \times 4}{9 \times 4} = \frac{7}{9}$$

$$\text{OU } \frac{1}{3} + \frac{4}{9} = \frac{1 \times 3}{3 \times 3} + \frac{4}{9} = \frac{3}{9} + \frac{4}{9} = \frac{7}{9}$$

Ex 56 p 87

$$a. x+y = \frac{1}{6} + \frac{3}{5} = \frac{1 \times 5}{6 \times 5} + \frac{3 \times 6}{5 \times 6} = \frac{5}{30} + \frac{18}{30} = \frac{23}{30}$$

$$b. y+t = \frac{3}{5} + (-4) = \frac{3}{5} + \frac{-4 \times 5}{1 \times 5} = \frac{3}{5} + \frac{-20}{5} = \frac{-17}{5} = -3,4$$

$$c. z = -\frac{-2}{3} = \frac{2}{3}$$

$$z-y = \frac{2}{3} - \frac{3}{5} = \frac{2 \times 5}{3 \times 5} - \frac{3 \times 3}{5 \times 3} = \frac{10}{15} - \frac{9}{15} = \frac{1}{15}$$

$$d. -t-z = 4 - \frac{2}{3} = \frac{4 \times 3}{1 \times 3} - \frac{2}{3} = \frac{12}{3} - \frac{2}{3} = \frac{10}{3}$$

Ex 59 p 87

a	$2 = \frac{24}{12}$	$\frac{5}{7} = \frac{-10}{14}$	$\frac{1}{2} = \frac{-4}{8}$
b	$-\frac{1}{3} = \frac{-4}{12}$	$-1 = \frac{-14}{14}$	$\frac{1}{4} = \frac{2}{8}$
c	$\frac{5}{4} = \frac{15}{12}$	$\frac{2}{14}$	$-\frac{1}{8}$
a-b+c	$\frac{28}{12} + \frac{15}{12} = \frac{43}{12}$	$\frac{4}{14} + \frac{2}{14} = \frac{6}{14} = \frac{3}{7}$	$\frac{-6}{8} + \frac{-1}{8} = \frac{-7}{8}$
a-b-c	$\frac{28}{12} - \frac{15}{12} = \frac{13}{12}$	$\frac{4}{14} - \frac{2}{14} = \frac{2}{14} = \frac{1}{7}$	$\frac{-6}{8} - \frac{-1}{8} = \frac{-5}{8}$