Corrigé interrogation chapitre 2

Exercice 1

a) $\frac{1}{2} + \frac{2}{3} \neq \frac{1+2}{2+3}$ Faux.

b) $\frac{1}{2} \times \frac{4}{5} = \frac{1 \times 4}{2 \times 5}$ Vrai

c) $\frac{1}{3} \times \frac{2}{3} \neq \frac{1 \times 2}{3}$ Faux

Exercice 2

a) $2 \times (3 + x) = 2 \times 3 + 2 \times x$
$= 6 + 2x$

b) $(5 + x - y) \times 4 = 5 \times 4 + x \times 4 - y \times 4$
$= 20 + 4x - 4y$

c) $-(x + y - 2) = -x - y + 2$

d) $(2 + x) \times 2 - (3 + x) \times 4 = [2 \times 2 + x \times 2] - [3 \times 4 + x \times 4]$
$= 4 + 2x - (12 + 4x)$
$= 4 + 2x - 12 - 4x$
$= -8 - 2x$

Exercice 3

a) $2 \times 97 + 8 \times 97 = (2 + 8) \times 97 = 10 \times 97 = 970$

b) $3 \times x + x \times 2 = (3 + 2) \times x = 5x$.

c) $40a - 20b + 10 = 10 \times 4a - 10 \times 2b + 10 \times 1 = 10[4a - 2b + 1]$

d) $ab + 2a + 5a = a \times b + a \times 2 + a \times 5$

$= a \times (b + 2 + 5) = a(b + 7)$

Exercice 4

a) $\frac{2}{5} \times \left(\frac{1}{3} - \frac{1}{21}\right) = \frac{2}{5} \times \left(\frac{1 \times 7}{3 \times 7} - \frac{1}{21}\right)$

$= \frac{2}{5} \times \left(\frac{7}{21} - \frac{1}{21}\right)$

$= \frac{2}{5} \times \frac{6}{21}$

$= \frac{2 \times 6}{5 \times 21} = \frac{2 \times 2 \times 3}{5 \times 3 \times 7} = \frac{2 \times 2}{5 \times 7} = \frac{4}{35}$

b) $\frac{3}{4} \div \left(\frac{1}{15} + \frac{1}{24}\right) = \frac{3}{4} \div \left(\frac{1 \times 8}{15 \times 8} + \frac{1 \times 5}{24 \times 5}\right)$

$= \frac{3}{4} \div \left(\frac{8}{120} + \frac{5}{120}\right)$

$= \frac{3}{4} \div \frac{13}{120}$

$= \frac{3}{4} \times \frac{120}{13} = \frac{3 \times 4 \times 30}{4 \times 13} = \frac{90}{13}$

c) $\frac{3}{28} - \frac{9}{70} = \frac{3 \times 5}{28 \times 5} - \frac{9 \times 2}{70 \times 2} = \frac{15}{140} - \frac{18}{140} = \frac{-3}{140}$

Corrigé interrogation chapitre 2

Exercice 1

a) $\frac{1}{2} \times \frac{8}{5} = \frac{1 \times 8}{2 \times 5}$ Vrai

b) $\frac{1}{2} + \frac{7}{4} = \frac{1+7}{2+4}$ Faux !

c) $\frac{4}{7} \times \frac{2}{7} = \frac{1 \times 2}{7}$ Faux

Exercice 2

a) $2 \times (5+y) = 2 \times 5 + 2 \times y$
$= 10 + 2y$

b) $(x+5-y) \times 2 = x \times 2 + 5 \times 2 - y \times 2$
$= 2x + 10 - 2y$

c) $-(x-y+2) = -x + y - 2$

d) $(3+x) \times 2 - (2+x) \times 4 = [3 \times 2 + x \times 2] - [2 \times 4 + x \times 4]$
$= [6 + 2x] - [8 + 4x]$
$= 6 + 2x - 8 - 4x$
$= -2 - 2x$

Exercice 3

a) $97 \times 71 + 3 \times 71 = (97+3) \times 71 = 100 \times 71 = 7\,100$

b) $3xy + y \times 7 = (3+7) \times y = 10 \times y = 10y$

c) $50a - 20b + 10 = 10 \times 5a - 10 \times 2b + 10 \times 1$
$= 10(5a - 2b + 1)$

d) $ab+3a-5a = a(b+3-5)$

$= a(b-2)$

Exercice 4

a) $\frac{1}{5} \times \left(\frac{1}{3} - \frac{1}{21}\right)$ On multiplie 3 par 7 pour faire 21.

$= \frac{1}{5} \times \left(\frac{1\times7}{3\times7} - \frac{1}{21}\right)$

$= \frac{1}{5}\left(\frac{7}{21} - \frac{1}{21}\right) = \frac{1}{5} \times \frac{6}{21} = \frac{6}{105}$ $\left(= \frac{2\times3}{35\times3} = \frac{2}{35}\right)$

b) $\frac{1}{4} \div \left(\frac{1}{15} + \frac{1}{24}\right)$

$15 = 3\times5$ } multiple commun : $2^3\times3\times5$
$24 = 3\times2^3$ } $= 120$

$= \frac{1}{4} \div \left[\frac{1\times8}{15\times8} + \frac{1\times5}{24\times5}\right]$

$= \frac{1}{4} \div \left[\frac{8}{120} + \frac{5}{120}\right] = \frac{1}{4} \div \frac{13}{120} = \frac{1}{4} \times \frac{120}{13} = \frac{1\times120}{4\times13} = \frac{4\times30}{4\times13}$

$= \frac{30}{13}$.

c) $\frac{3}{28} - \frac{9}{70} = \frac{3\times5}{28\times5} - \frac{9\times2}{70\times2}$

$28 = 2^2\times7$ } multiple commun :
$70 = 2\times5\times7$ } $2^2\times5\times7 = 140$

$= \frac{15}{140} - \frac{18}{140}$

$= \frac{-3}{140}$.