

Exercice 62

$$A = \frac{3}{4} - \left(\frac{2}{5}x + \frac{5}{4} \right) + \left(\frac{7}{5}x - \frac{9}{4} \right)$$

$$= \frac{3}{4} - \frac{2}{5}x - \frac{5}{4} + \frac{7}{5}x - \frac{9}{4}$$

$$= \frac{3}{4} - \frac{5}{4} - \frac{9}{4} + \frac{7}{5}x - \frac{2}{5}x$$

$$= \frac{3-5-9}{4} + \frac{7x-2x}{5}$$

$$= \frac{-11}{4} + \frac{5x}{5}$$

$$= x - \frac{11}{4}$$

$$B = \left(-\frac{1}{5} + \frac{2}{3}y \right) - \left(\frac{5}{4}y + \frac{7}{10} \right) = -\frac{1}{5} + \frac{2}{3}y - \frac{5}{4}y - \frac{7}{10}$$

$$B = -\frac{1}{5} - \frac{7}{10} + \frac{2}{3}y - \frac{5}{4}y$$

$$= \frac{-2}{10} - \frac{7}{10} + \frac{(2+4)y - (5+3)y}{12}$$

$$= \frac{-2-7}{10} + \frac{8y-15y}{12}$$

$$= \frac{-9}{10} - \frac{7y}{12}$$

$$\begin{aligned}
 C &= \frac{1}{7} y \left(-\frac{1}{6} y + 5 \right) - \frac{11}{22} y \left(-3 + \frac{1}{2} y \right) \\
 &= \frac{1}{7} y \left(-\frac{y}{6} \right) + \left(\frac{1}{7} y \times 5 \right) + \left(\left(-\frac{11}{22} y \right) \times (-3) \right) + \left(\left(-\frac{11}{22} \right) y \times \frac{1}{2} y \right) \\
 &= \frac{-y^2}{42} + \frac{5y}{7} + \frac{3+11}{22} y - \frac{11 \times 1}{22 \times 2} y^2 \\
 &= y^2 \left(-\frac{1}{42} - 114 \right) + y \left(\frac{5}{7} + \frac{3}{2} \right) = y^2 \left(\frac{-4}{4 \times 42} - \frac{42}{4 \times 42} \right) + y \left(\frac{5 \times 2 + 3 \times 7}{7 \times 2} \right) \\
 &= y^2 \left(\frac{-46}{4 \times 42} \right) + y \left(\frac{31}{14} \right) = \underline{\underline{-\frac{23}{84} y^2 + \frac{31}{14} y}}
 \end{aligned}$$

$$\begin{aligned}
 D &= \frac{-3}{25} z \left(\frac{7}{2} z - 1 \right) + 7z \left(-\frac{1}{2} z - 3/4 \right) \\
 &= \frac{-21}{25 \times 2} z^2 + \frac{3}{25} z - \frac{7}{2} z^2 - \frac{21z}{4} \\
 &= z^2 \left(\frac{-21}{50} - \frac{7}{2} \right) + z \left(\frac{3}{25} - \frac{21}{4} \right) \\
 &= \cancel{\frac{-21}{50} z^2} z^2 \left(\frac{-21}{50} - \frac{7 \times 25}{50} \right) + z \left(\frac{(3 \times 4) - (21 \times 25)}{25 \times 4} \right) \\
 &= z^2 \left(\frac{-21 - 175}{50} \right) + z \left(\frac{12 - 525}{100} \right) \\
 &= z^2 \left(\frac{-196}{50} \right) + z \left(\frac{-513}{100} \right) \\
 &= \underline{\underline{-\frac{98}{25} z^2 - \frac{513}{100} z}}
 \end{aligned}$$