

Corrections

Exercice 8

$$A = \frac{25}{12} \times \frac{6}{35} = \frac{5 \times 5 \times 2 \times 3}{2 \times 2 \times 3 \times 7 \times 5} = \frac{5}{2 \times 7} = \frac{5}{14}$$

$$B = \frac{100}{21} \times \frac{63}{50} = \frac{2 \times 5 \times 2 \times 5 \times 3 \times 3 \times 7}{3 \times 7 \times 2 \times 5 \times 5} = \frac{2 \times 3}{1} = 6$$

$$C = \frac{70}{27} \times \frac{9}{50} = \frac{7 \times 2 \times 5 \times 3 \times 3}{3 \times 3 \times 3 \times 2 \times 5 \times 5} = \frac{7}{3 \times 5} = \frac{7}{15}$$

$$D = \frac{2}{45} \times \frac{63}{10} = \frac{2 \times 7 \times 3 \times 3}{3 \times 3 \times 5 \times 2 \times 5} = \frac{7}{5 \times 5} = \frac{7}{25}$$

Exercice 23

$$A = -6x - (8x - 9) - 3 = -6x - 8x + 9 - 3 = -14x + 6$$

$$B = -8 - (3x + 8) + 8x = -8 - 3x - 8 + 8x = 5x - 16$$

$$C = -(7x + 4) - 6x - 6 = -7x - 4 - 6x - 6 = -13x - 10$$

$$D = (-9x - 2) - 4 - 3x = -9x - 2 - 4 - 3x = -12x - 6$$

$$E = -(-7x - 9) - 5 + 8x = 7x + 9 - 5 + 8x = 15x + 4$$

$$F = 6 + 9x + (-9x + 10) = 6 + 9x - 9x + 10 = 16$$

Exercice 24

$$A = -5 - 2x - (9x + 5) = -5 - 2x - 9x - 5 = -11x - 10$$

$$B = -9x - (-6x + 7) - 8 = -9x + 6x - 7 - 8 = -3x - 15$$

$$C = -(x - 8) + 8 - 2x = -x + 8 + 8 - 2x = -3x + 16$$

$$D = 6x + (8x + 2) - 9 = 6x + 8x + 2 - 9 = 14x - 7$$

$$E = -6 - (-8x - 4) + 10x = -6 + 8x + 4 + 10x = 18x - 2$$

$$F = 7 + 3x + (6x - 3) = 7 + 3x + 6x - 3 = 9x - 4$$

Exercice 25

$$A = \frac{15}{11} + \frac{-9}{11} \times \frac{22}{3} = \frac{15}{11} + \frac{-1 \times 3 \times 3 \times 2 \times 11}{11 \times 3} = \frac{15}{11} + (-6)$$

$$= \frac{15}{11} + \left(-\frac{6 \times 11}{1 \times 11}\right) = \frac{15}{11} + \left(-\frac{66}{11}\right) = -\frac{51}{11}$$

$$B = \frac{\frac{-3}{4} + 9}{-7 - 6} = \frac{\frac{-3}{4} + \frac{9}{1}}{\frac{-7}{4} - \frac{6}{1}} = \frac{\frac{-3}{4} + \frac{9 \times 4}{1 \times 4}}{\frac{-7}{4} - \frac{6 \times 4}{1 \times 4}} = \frac{\frac{-3}{4} + \frac{36}{4}}{\frac{-7}{4} - \frac{24}{4}} = \frac{\frac{33}{4}}{\frac{-31}{4}} = \frac{\frac{33}{4} \times 4}{\frac{-31}{4} \times 4} = \frac{33}{-31}$$

$$C = \frac{9}{4} \times \left(\frac{1}{12} - \frac{9}{7}\right) = \frac{9}{4} \times \left(\frac{1 \times 7}{12 \times 7} - \frac{9 \times 12}{7 \times 12}\right) = \frac{9}{4} \times \left(\frac{7}{84} - \frac{108}{84}\right)$$

$$= \frac{9}{4} \times \left(\frac{-101}{84}\right) = \frac{3 \times 3 \times (-101)}{4 \times 3 \times 28} = \frac{-303}{112}$$

Exercice 26

$$A = \frac{\frac{-1}{10} - 4}{\frac{3}{7} - 7} = \frac{\frac{-1}{10} - \frac{4}{1}}{\frac{3}{7} - \frac{1}{1}} = \frac{\frac{-1}{10} - \frac{4 \times 3}{1 \times 3}}{\frac{3}{7} - \frac{1 \times 3}{1 \times 3}} = \frac{\frac{-1}{10} - \frac{12}{10}}{\frac{3}{7} - \frac{3}{7}} = \frac{\frac{-13}{10}}{\frac{-63}{10}}$$

$$\frac{-13}{3} \div \frac{-63}{10} = \frac{-13}{3} \times \frac{10}{-63} = \frac{-1 \times 13 \times 2 \times 5}{3 \times (-1) \times 3 \times 7 \times 3} = \frac{130}{189}$$

$$B = \frac{-18}{5} - \frac{-81}{40} \div \frac{81}{20} = \frac{-18}{5} - \frac{-81}{40} \times \frac{20}{81} = \frac{-18}{5} - \frac{-1 \times 81}{2 \times 20} \times \frac{20}{81} = \frac{-18}{5} - \frac{-1}{2}$$

$$= \frac{-18 \times 2}{5 \times 2} - \frac{-1 \times 5}{2 \times 5} = \frac{-36}{10} - \frac{-5}{10} = \frac{-36}{10} + \frac{5}{10} = \frac{-31}{10}$$

$$C = \frac{-2}{9} \div \left(\frac{9}{4} - \frac{-11}{7}\right) = \frac{-2}{9} \div \left(\frac{9 \times 7}{4 \times 7} - \frac{-11 \times 4}{7 \times 4}\right) = \frac{-2}{9} \div \left(\frac{63}{28} - \frac{-44}{28}\right)$$

$$= \frac{-2}{9} \div \left(\frac{63}{28} + \frac{44}{28}\right) = \frac{-2}{9} \div \left(\frac{107}{28}\right) = \frac{-2}{9} \times \frac{28}{107} = \frac{-1 \times 2 \times 2 \times 2 \times 7}{3 \times 3 \times 107} = -\frac{56}{963}$$

Exercice 27

$$A = \frac{-1}{5} \times \left(\frac{4 \times 5}{13 \times 5} - \frac{3 \times 13}{5 \times 13} \right) = \frac{-1}{5} \times \left(\frac{20}{65} - \frac{39}{65} \right) = \frac{-1}{5} \times \left(\frac{-19}{65} \right) = \frac{19}{325}$$

$$B = \frac{\frac{-2}{3} + 6}{\frac{3}{4} - 5} = \frac{\frac{-2}{3} + \frac{6}{1}}{\frac{3}{4} - \frac{5}{1}} = \frac{\frac{-2}{3} + \frac{6 \times 3}{1 \times 3}}{\frac{3}{4} - \frac{5 \times 4}{1 \times 4}} = \frac{\frac{-2}{3} + \frac{18}{3}}{\frac{3}{4} - \frac{20}{4}}$$
$$= \frac{\frac{16}{3}}{\frac{-17}{4}} = \frac{16}{3} \div \frac{-17}{4} = \frac{16}{3} \times \frac{4}{-1 \times 17} = \frac{64}{-51}$$

$$C = \frac{-2}{5} - \frac{1}{5} \times \frac{35}{4} = \frac{-2 \times 4}{5 \times 4} - \frac{1 \times 35}{5 \times 4}$$
$$= \frac{-2 \times 4}{5 \times 4} - \frac{35}{5 \times 4} = \frac{-8}{20} - \frac{35}{20} = \frac{-43}{20}$$

Brouillon (pas pour les élèves)

Exercice 8

$$A = \frac{25}{12} \times \frac{6}{35}$$

$$B = \frac{100}{21} \times \frac{63}{50}$$

$$C = \frac{70}{27} \times \frac{9}{50}$$

$$D = \frac{2}{45} \times \frac{63}{10}$$

Exercice 23

$$A = -6x - (8x - 9) + 3$$

Exercice 25

$$A = \frac{15}{11} + \frac{-9}{11} \times \frac{22}{3}$$

$$B = \frac{\frac{-3}{4} + 9}{\frac{-7}{4} - 6}$$

$$C = \frac{9}{4} \times \left(\frac{1}{12} - \frac{9}{7} \right)$$

Exercice 26

$$A = \frac{\frac{-1}{3} - 4}{\frac{7}{10} - 7}$$

$$B = \frac{-18}{5} - \frac{-81}{40} \div \frac{81}{20}$$

$$C = \frac{-2}{9} \div \left(\frac{9}{4} - \frac{-11}{7} \right)$$

Exercice 27

$$A = \frac{-1}{5} \times \left(\frac{4}{13} - \frac{3}{5} \right)$$

$$B = \frac{\frac{-2}{3} + 6}{\frac{3}{4} - 5}$$

$$C = \frac{-2}{5} - \frac{1}{5} \times \frac{35}{4}$$