Exercice 3

1)

$$A = \frac{57}{50} + \frac{29}{25} = \frac{57}{50} + \frac{58}{50} = \frac{115}{50} = \frac{5\times23}{5\times10} = \frac{23}{10}$$

$$B = \frac{-3}{10} + \frac{3}{7} = \frac{-3\times7}{10\times7} + \frac{3\times10}{7\times10} = \frac{-21+30}{70} = \frac{9}{70}$$

$$C = \frac{-13}{12} - \frac{1}{3} = \frac{-13}{12} - \frac{1\times4}{3\times4} = \frac{-13-4}{12} = \frac{-17}{12}$$

$$D = 3 - \frac{3}{4} = \frac{3\times4}{1\times4} - \frac{3}{4} = \frac{12-3}{4} = \frac{9}{4}$$

$$E = \frac{5}{9} \times \frac{3}{10} = \frac{5\times3}{3\times3\times2\times5} = \frac{1}{6}$$

$$F = \frac{12}{63} \times \frac{56}{15} \times 3 = \frac{4\times3\times7\times8\times3}{7\times3\times3\times3\times5} = \frac{32}{15}$$

$$G = \frac{-14}{25} \div \frac{7}{10} = \frac{-14}{25} \times \frac{10}{7} = \frac{-7\times2\times5\times2}{5\times5\times7} = \frac{-4}{5}$$

$$H = \frac{6}{7} \div 3 = \frac{6}{7} \times \frac{1}{3} = \frac{3\times2\times1}{7\times3} = \frac{2}{7}$$

2)

$$A = 5^2 \times 5^4 = 5^{2+4} = 5^6$$

$$B = 9^2 \times 3^{-3} \times 81 = (3^2)^2 \times 3^{-3} \times (3^2)^2 = 3^{2\times2} \times 3^{-3} \times 3^{2\times2} = 3^{4-3+4} = 3^5$$

$$C = \frac{10^{-4}\times(10^2)^3}{10^7} = \frac{10^{-4}\times10^{2\times3}}{10^7} = 10^{-4+6-7} = 10^{-5} = \frac{1}{10^5}$$