

**EXERCICE 1 :** Donner le résultat en écriture fractionnaire :

|                                                                                                                                                                                                 |                                                                                              |                                                                    |                                                                                        |
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| $A = \frac{2}{3} \times \left(\frac{7}{5} + \frac{2}{5}\right)$ $A = \frac{2}{3} \times \frac{9}{5}$ $A = \frac{2}{3} \times \frac{3 \times 3}{5}$ $A = \frac{2 \times 3}{5}$ $A = \frac{6}{5}$ | $B = \left(\frac{7}{4} - \frac{3}{4}\right) \times \left(\frac{7}{5} + \frac{2}{5}\right)$   | $C = \frac{17}{14} - \left(\frac{3}{2} \times \frac{5}{7}\right)$  | $D = \left(\frac{7}{12} + \frac{1}{6}\right) \times \frac{3}{2}$                       |
| $E = 4 \times \left(\frac{3}{10} + \frac{3}{5}\right)$                                                                                                                                          | $F = \left(\frac{10}{8} - \frac{1}{4}\right) \times \left(\frac{7}{12} + \frac{2}{3}\right)$ | $G = \frac{4}{5} - \frac{1}{3} \times \frac{2}{15} + \frac{4}{45}$ | $H = \frac{1}{2} \left[ \frac{1}{4} - \left(\frac{1}{8} - \frac{1}{16}\right) \right]$ |

**EXERCICE 2 :** Calculer en choisissant la méthode la plus simple :

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| $A = \frac{4}{3} \times \left(\frac{3}{10} + \frac{3}{5}\right)$ $A = \frac{4}{3} \times \frac{3}{10} + \frac{4}{3} \times \frac{3}{5}$ $A = \frac{4}{10} + \frac{4}{5}$ $A = \frac{2 \times 2}{5 \times 2} + \frac{4}{5}$ $A = \frac{2}{5} + \frac{4}{5} = \frac{6}{5}$ | $B = \frac{2}{5} \times \frac{13}{7} + \frac{2}{5} \times \frac{1}{3}$ | $C = 12 \times \left(\frac{7}{3} - \frac{5}{4}\right)$ | $D = \frac{3}{10} \times \frac{7}{2} - \frac{3}{4} \times \frac{9}{5}$ |
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**EXERCICE 3 :** Sachant que  $a = \frac{3}{4}$  et  $b = \frac{5}{2}$ , calculer :

|                                                                                                                                                                                                            |           |                      |                                   |
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| $A = 3a + 2b$ $A = 3 \times \frac{3}{4} + 2 \times \frac{5}{2}$ $A = 3 \times \frac{3}{4} + 2 \times \frac{5}{2}$ $A = \frac{9}{4} + 5 \times \frac{4}{4}$ $A = \frac{9}{4} + \frac{20}{4} = \frac{29}{4}$ | $B = 4ab$ | $C = (a + b)(b - a)$ | $D = \frac{5}{3}a - \frac{1}{6}b$ |
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## CORRIGE – M. QUET

## EXERCICE 1

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| $A = \frac{2}{3} \times \left( \frac{7}{5} + \frac{2}{5} \right)$ $A = \frac{2}{3} \times \frac{9}{5}$ $A = \frac{2}{3} \times \frac{3 \times 3}{5}$ $A = \frac{2 \times 3}{5}$ $A = \frac{6}{5}$                                                                                                         | $B = \left( \frac{7}{4} - \frac{3}{4} \right) \times \left( \frac{7}{5} + \frac{2}{5} \right)$ $B = \frac{\boxed{4}}{\boxed{4}} \times \frac{9}{5}$ $B = \frac{9}{5}$                                                                                                                                                                                                                                                                                                                  | $C = \frac{17}{14} - \left( \frac{3}{2} \times \frac{5}{7} \right)$ $C = \frac{17}{14} - \left( \frac{3 \times 5}{2 \times 7} \right)$ $C = \frac{17}{14} - \frac{15}{14}$ $C = \frac{2}{14}$ $C = \frac{\boxed{2} \times 1}{\boxed{2} \times 7}$ $C = \frac{1}{7}$          | $D = \left( \frac{7}{12} + \frac{1}{6} \right) \times \frac{3}{2}$ $D = \left( \frac{7}{12} + \frac{1 \times 2}{6 \times 2} \right) \times \frac{3}{2}$ $D = \left( \frac{7}{12} + \frac{2}{12} \right) \times \frac{3}{2}$ $D = \frac{9}{12} \times \frac{3}{2}$ $D = \frac{9 \times \boxed{3}}{4 \times \boxed{3} \times 2}$ $D = \frac{9}{8}$                                                                                                                                                                                       |
| $E = 4 \times \left( \frac{3}{10} + \frac{3}{5} \right)$ $E = 4 \times \left( \frac{3}{10} + \frac{3 \times 2}{5 \times 2} \right)$ $E = 4 \times \left( \frac{3}{10} + \frac{6}{10} \right)$ $E = 4 \times \frac{9}{10}$ $E = \frac{2 \times \boxed{2} \times 9}{\boxed{2} \times 5}$ $E = \frac{18}{5}$ | $F = \left( \frac{10}{8} - \frac{1}{4} \right) \times \left( \frac{7}{12} + \frac{2}{3} \right)$ $F = \left( \frac{10}{8} - \frac{1 \times 2}{4 \times 2} \right) \times \left( \frac{7}{12} + \frac{2 \times 4}{3 \times 4} \right)$ $F = \left( \frac{10}{8} - \frac{2}{8} \right) \times \left( \frac{7}{12} + \frac{8}{12} \right)$ $F = \frac{8}{8} \times \frac{15}{12}$ $F = \frac{\boxed{8} \times \boxed{3} \times 5}{\boxed{8} \times \boxed{3} \times 4}$ $F = \frac{5}{4}$ | $G = \frac{4}{5} - \frac{1}{3} \times \frac{2}{15} + \frac{4}{45}$ $G = \frac{4}{5} - \frac{1 \times 2}{3 \times 15} + \frac{4}{45}$ $G = \frac{4 \times 9}{5 \times 9} - \frac{2}{45} + \frac{4}{45}$ $G = \frac{36}{45} - \frac{2}{45} + \frac{4}{45}$ $G = \frac{38}{45}$ | $H = \frac{1}{2} \left[ \frac{1}{4} - \left( \frac{1}{8} - \frac{1}{16} \right) \right]$ $H = \frac{1}{2} \left[ \frac{1}{4} - \left( \frac{1 \times 2}{8 \times 2} - \frac{1}{16} \right) \right]$ $H = \frac{1}{2} \left[ \frac{1}{4} - \left( \frac{2}{16} - \frac{1}{16} \right) \right]$ $H = \frac{1}{2} \left[ \frac{1 \times 4}{4 \times 4} - \frac{1}{16} \right]$ $H = \frac{1}{2} \left[ \frac{4}{16} - \frac{1}{16} \right]$ $H = \frac{1}{2} \times \frac{3}{16}$ $H = \frac{1 \times 3}{2 \times 16}$ $H = \frac{3}{32}$ |

## EXERCICE 2 : Calculer en choisissant la méthode la plus simple :

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| $A = \frac{4}{3} \times \left( \frac{3}{10} + \frac{3}{5} \right)$ $A = \frac{4}{3} \times \frac{3}{10} + \frac{4}{3} \times \frac{3}{5}$ $A = \frac{4}{10} + \frac{4}{5}$ $A = \frac{2 \times 2}{5 \times 2} + \frac{4}{5}$ $A = \frac{2}{5} + \frac{4}{5}$ $A = \frac{6}{5}$ | $B = \frac{2}{5} \times \frac{13}{7} + \frac{2}{5} \times \frac{1}{3}$ $B = \frac{2}{5} \times \left( \frac{13}{7} + \frac{1}{3} \right)$ $B = \frac{2}{5} \times \left( \frac{13 \times 3}{7 \times 3} + \frac{1 \times 7}{3 \times 7} \right)$ $B = \frac{2}{5} \times \left( \frac{39}{21} + \frac{7}{21} \right)$ $B = \frac{2}{5} \times \frac{46}{21}$ $B = \frac{92}{105}$ | $C = 12 \times \left( \frac{7}{3} - \frac{5}{4} \right)$ $C = \frac{12 \times 7}{1 \times 3} - \frac{12 \times 5}{1 \times 4}$ $C = \frac{4 \times \boxed{3} \times 7}{\boxed{3}} - \frac{3 \times \boxed{4} \times 5}{\boxed{4}}$ $C = 28 - 15$ $C = 13$ | $D = \frac{3}{10} \times \frac{7}{2} - \frac{3}{4} \times \frac{9}{5}$ $D = \frac{3 \times 7}{10 \times 2} - \frac{3 \times 9}{4 \times 5}$ $D = \frac{21}{20} - \frac{27}{20}$ $D = \frac{21 - 27}{20}$ $D = \frac{-7}{20}$ |
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**EXERCICE 3 :** Sachant que  $a = \frac{3}{4}$  et  $b = \frac{5}{2}$ , calculer :

$$A = 3a + 2b$$

$$A = 3 \times \frac{3}{4} + 2 \times \frac{5}{2}$$

$$A = 3 \times \frac{3}{4} + 2 \times \frac{5}{2}$$

$$A = \frac{9}{4} + 5 \times \frac{4}{4}$$

$$A = \frac{9}{4} + \frac{20}{4} = \frac{29}{4}$$

$$B = 4ab$$

$$B = 4 \times \frac{3}{4} \times \frac{5}{2}$$

$$B = \frac{4 \times 3 \times 5}{4 \times 2}$$

$$B = \frac{15}{2}$$

$$C = (a + b)(b - a)$$

$$C = \left(\frac{3}{4} + \frac{5}{2}\right) \left(\frac{5}{2} - \frac{3}{4}\right)$$

$$C = \left(\frac{3}{4} + \frac{5 \times 2}{2 \times 2}\right) \left(\frac{5 \times 2}{2 \times 2} - \frac{3}{4}\right)$$

$$C = \left(\frac{3}{4} + \frac{10}{4}\right) \left(\frac{10}{4} - \frac{3}{4}\right)$$

$$C = \frac{13}{4} \times \frac{7}{4}$$

$$C = \frac{13 \times 7}{4 \times 4}$$

$$C = \frac{91}{16}$$

$$D = \frac{5}{3}a - \frac{1}{6}b$$

$$D = \frac{5}{3} \times \frac{3}{4} - \frac{1}{6} \times \frac{5}{2}$$

$$D = \frac{5 \times 3}{3 \times 4} - \frac{1 \times 5}{6 \times 2}$$

$$D = \frac{15}{12} - \frac{5}{12}$$

$$D = \frac{10}{12}$$

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

$$D = \frac{5}{6}$$