

**L'usage de la calculatrice est strictement interdit**

### Algèbre

Barème

**Exercice 1 (3,5pts)** Calculer et simplifier si possible

$$A = \frac{21}{15} + \left(\frac{-2}{5}\right) \quad ; \quad B = \left(\frac{-3}{4}\right) - \frac{15}{12} = \quad ; \quad C = \frac{8}{16} \times \left(\frac{-34}{17}\right)$$

1,5pts

$$D = \left(\frac{14}{-21}\right) \div \left(\frac{-4}{18}\right) \quad ; \quad E = \frac{2}{3} - \left(-\frac{6}{12}\right) + \left(\frac{-13}{6}\right)$$

2pts

**Exercice 2 (4pts)** Calculer et simplifier

$$F = \frac{6}{5} \times \left(\frac{-5}{9}\right) + \left(\frac{-12}{9}\right) \quad ; \quad G = \left(\frac{-10}{7}\right) \times \left(\frac{14}{-8}\right) \times \frac{12}{15}$$

2pts

$$H = \frac{-20}{6} \div \left(\frac{-1}{15} - \frac{3}{5}\right) \quad ; \quad I = \left(\frac{2}{7} - \frac{-16}{14}\right) \div \left(\frac{-6}{14} - \frac{1}{7}\right)$$

2pts

**Exercice 3 (1pts)** Calculer et simplifier

$$J = \frac{\frac{1}{7} - 1}{\frac{4}{2} + 1} \quad ; \quad K = \frac{2 + \frac{1}{2}}{1 + \frac{1}{1 + \frac{1}{2}}}$$

1pt

**Exercice 4 (1,5pts)** On pose :  $L = \frac{3a-2}{4} + \frac{1-a}{3}$

1) Montrer que  $L = \frac{5a-2}{12}$

1pt

2) Calculer  $L$  si  $a = \frac{14}{5}$

0,5pt

**Exercice 5 (2pts)** on pose  $M = \frac{-7}{11} \times \frac{a}{b} \times \frac{b}{c} \times \frac{11}{7}$

1) simplifier  $M$ .

0,5pt

2) Calculer  $M$  si  $\frac{a}{b} = \frac{2}{5}$  et  $\frac{b}{c} = \frac{5}{-3}$

1pt

3) En déduire  $\frac{a}{c}$

0,5pt

