

Exercice 1

Effectuer sans calculatrice :

▶1. $10 \times (-1) = -10$

▶2. $-21 \div 3 = -7$

▶3. $-12 \div (-6) = 2$

▶4. $6 - 8 = -2$

▶5. $-1 - (-5) = 4$

▶6. $10 + 10 = 20$

▶7. $-8 + (-8) = -16$

▶8. $-4 - 6 = -10$

▶9. $-42 \div 7 = -6$

▶10. $-9 \times (-5) = 45$

▶11. $1 \times 8 = 8$

▶12. $12 - 3 = 9$

▶13. $15 \div (-3) = -5$

▶14. $8 + 9 = 17$

▶15. $20 \div 4 = 5$

▶16. $-5 \times 3 = -15$

▶17. $5 + 10 = 15$

▶18. $1 - 8 = -7$

▶19. $-8 \times (-8) = 64$

▶20. $-4 + 6 = 2$

Corrigé de l'exercice 2

Effectuer les calculs suivants et donner le résultat sous la forme d'une fraction simplifiée :

$$A = \frac{11}{24} + \frac{13}{6}$$

$$A = \frac{11}{24} + \frac{13 \times 4}{6 \times 4}$$

$$A = \frac{63}{24}$$

$$A = \frac{21 \times 3}{8 \times 3}$$

$$A = \frac{21}{8}$$

$$B = 9 - \frac{13}{6}$$

$$B = \frac{9 \times 6}{1 \times 6} - \frac{13}{6}$$

$$B = \frac{41}{6}$$

$$C = \frac{3}{4} - \frac{4}{5}$$

$$C = \frac{3 \times 5}{4 \times 5} - \frac{4 \times 4}{5 \times 4}$$

$$C = \frac{-1}{20}$$

$$D = \frac{11}{3} + \frac{15}{2}$$

$$D = \frac{11 \times 2}{3 \times 2} + \frac{15 \times 3}{2 \times 3}$$

$$D = \frac{67}{6}$$

$$E = \frac{-9}{-5} + \frac{7}{-4}$$

$$E = \frac{9 \times 4}{5 \times 4} + \frac{-7 \times 5}{4 \times 5}$$

$$E = \frac{1}{20}$$

$$F = \frac{-7}{-2} - \frac{-12}{5}$$

$$F = \frac{7 \times 5}{2 \times 5} - \frac{-12 \times 2}{5 \times 2}$$

$$F = \frac{59}{10}$$

$$G = \frac{13}{-6} + \frac{-11}{-9}$$

$$G = \frac{-13 \times 3}{6 \times 3} + \frac{11 \times 2}{9 \times 2}$$

$$G = \frac{-17}{18}$$

$$H = \frac{-3}{10} - \frac{-13}{4}$$

$$H = \frac{-3 \times 2}{10 \times 2} - \frac{-13 \times 5}{4 \times 5}$$

$$H = \frac{59}{20}$$

Corrigé de l'exercice 3

Effectuer les calculs suivants et donner le résultat sous la forme d'une fraction simplifiée :

$$A = \frac{9}{2} \div \frac{5}{7}$$

$$A = \frac{9}{2} \times \frac{7}{5}$$

$$A = \frac{63}{10}$$

$$B = \frac{1}{4} \times \frac{9}{4}$$

$$B = \frac{9}{16}$$

$$C = \frac{-1}{-2} \times \frac{5}{-6}$$

$$C = \frac{-5}{12}$$

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

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

$$D = \frac{-5}{18}$$

$$E = \frac{18}{35} \times \frac{5}{12}$$

$$E = \frac{3 \times \cancel{6}}{7 \times \cancel{5}} \times \frac{1 \times \cancel{5}}{2 \times \cancel{6}}$$

$$E = \frac{3}{14}$$

$$F = \frac{81}{64} \div \frac{27}{56}$$

$$F = \frac{81}{64} \times \frac{56}{27}$$

$$F = \frac{3 \times \cancel{27}}{8 \times \cancel{8}} \times \frac{7 \times \cancel{8}}{1 \times \cancel{27}}$$

$$F = \frac{21}{8}$$

$$G = \frac{-2}{15} \div \frac{-22}{-15}$$

$$G = \frac{-2}{15} \times \frac{15}{22}$$

$$G = \frac{-1 \times \cancel{2}}{1 \times \cancel{15}} \times \frac{1 \times \cancel{15}}{11 \times \cancel{2}}$$

$$G = \frac{-1}{11}$$

$$H = \frac{-48}{-35} \times \frac{-21}{32}$$

$$H = \frac{3 \times \cancel{16}}{5 \times \cancel{7}} \times \frac{-3 \times \cancel{7}}{2 \times \cancel{16}}$$

$$H = \frac{-9}{10}$$

Corrigé de l'exercice 4

Effectuer les calculs suivants et donner le résultat sous la forme d'une fraction simplifiée :

$$A = \frac{-8}{13} - \left(\frac{-3}{4} + \frac{-11}{-4} \right)$$

$$A = \frac{-8}{13} - \frac{8}{4}$$

$$A = \frac{-8}{13} - \frac{2 \times 4}{1 \times 4}$$

$$A = \frac{-8}{13} - 2$$

$$A = \frac{-8}{13} - \frac{2 \times 13}{1 \times 13}$$

$$A = \frac{-34}{13}$$

$$B = \frac{-15}{8} \div \frac{1}{40} \times \frac{11}{5}$$

$$B = \frac{-15}{8} \times 40 \times \frac{11}{5}$$

$$B = \frac{-15}{1 \times \cancel{8}} \times 5 \times \cancel{8} \times \frac{11}{5}$$

$$B = -75 \times \frac{11}{5}$$

$$B = -15 \times \cancel{5} \times \frac{11}{1 \times \cancel{5}}$$

$$B = -165$$

$$C = \frac{-12}{7} \times \frac{-8}{-3} \div \frac{3}{7}$$

$$C = \frac{-4 \times \cancel{3}}{7} \times \frac{8}{1 \times \cancel{3}} \div \frac{3}{7}$$

$$C = \frac{-32}{7} \div \frac{3}{7}$$

$$C = \frac{-32}{7} \times \frac{7}{3}$$

$$C = \frac{-32}{1 \times \cancel{7}} \times \frac{1 \times \cancel{7}}{3}$$

$$C = \frac{-32}{3}$$

$$D = \frac{-12}{5} \times \frac{15}{7} \div \frac{3}{-4}$$

$$D = \frac{-12}{1 \times \cancel{5}} \times \frac{3 \times \cancel{5}}{7} \div \frac{3}{-4}$$

$$D = \frac{-36}{7} \div \frac{3}{-4}$$

$$D = \frac{-36}{7} \times \frac{-4}{3}$$

$$D = \frac{-12 \times \cancel{3}}{7} \times \frac{-4}{1 \times \cancel{3}}$$

$$D = \frac{48}{7}$$

$$E = \frac{-1}{2} - \left(\frac{11}{-17} + \frac{-11}{-17} \right)$$

$$E = \frac{-1}{2} - 0$$

$$E = \frac{-1}{2}$$

$$F = \frac{-1}{4} \div \frac{-1}{-10} + \frac{1}{8}$$

$$F = \frac{-1}{4} \times 10 + \frac{-1}{-8}$$

$$F = \frac{-1}{2 \times \cancel{2}} \times 5 \times \cancel{2} + \frac{-1}{-8}$$

$$F = \frac{-5}{2} + \frac{-1}{-8}$$

$$F = \frac{-5 \times 4}{2 \times 4} + \frac{1}{8}$$

$$F = \frac{-19}{8}$$

Corrigé de l'exercice 5

Compléter par le nombre qui convient :

►1. $7,016 \times 10^3 = 7016$

►2. $0,02015 = 2,015 \times 10^{-2}$

►3. $9,086 \times 10^6 = 9086000$

►4. $22070 = 2,207 \times 10^4$

►5. $9074 = 9,074 \times 10^3$

►6. $280400 = 2,804 \times 10^5$

Corrigé de l'exercice 6

Calculer les expressions suivantes et donner l'écriture scientifique du résultat.

$$A = \frac{5000 \times 10^6 \times 2400 \times 10^9}{3 \times (10^{-8})^3}$$

$$A = \frac{5000 \times 2400}{3} \times \frac{10^{6+9}}{10^{-8 \times 3}}$$

$$A = 4000000 \times 10^{15 - (-24)}$$

$$A = 4 \times 10^6 \times 10^{39}$$

$$A = 4 \times 10^{45}$$

$$B = \frac{21 \times 10^{-5} \times 40 \times 10^{-3}}{2800 \times (10^5)^5}$$

$$B = \frac{21 \times 40}{2800} \times \frac{10^{-5+(-3)}}{10^{5 \times 5}}$$

$$B = 0,3 \times 10^{-8-25}$$

$$B = 3 \times 10^{-1} \times 10^{-33}$$

$$B = 3 \times 10^{-34}$$