

Exercice 1

Calculer

$$A = \frac{3}{7} + \frac{2}{7}, B = \frac{3}{7} - \frac{2}{7}$$

$$C = \frac{3}{7} \times \frac{2}{7}, D = \frac{3}{7} \div \frac{2}{7}$$

Réponse

$$A = \frac{3}{7} + \frac{2}{7} = \frac{5}{7}$$

$$B = \frac{3}{7} - \frac{2}{7} = \frac{1}{7}$$

$$C = \frac{3}{7} \times \frac{2}{7} = \frac{6}{49}$$

$$D = \frac{3}{7} \div \frac{2}{7} = \frac{3}{7} \times \frac{7}{2} = \frac{21}{14} = \frac{3}{2}$$

Exercice 2

Calculer

$$A = \frac{7}{10} + \frac{1}{10}, B = \frac{7}{10} - \frac{1}{10}$$

$$C = \frac{7}{10} \times \frac{1}{10}, D = \frac{7}{10} \div \frac{1}{10}$$

Réponse

$$A = \frac{7}{10} + \frac{1}{10} = \frac{8}{10}$$

$$B = \frac{7}{10} - \frac{1}{10} = \frac{6}{10}$$

$$C = \frac{7}{10} \times \frac{1}{10} = \frac{7}{100}$$

$$D = \frac{7}{10} \div \frac{1}{10} = \frac{7}{10} \times \frac{10}{1} = \frac{70}{10} = \frac{7}{1} = 7$$

Exercice 3

Calculer

$$A = \frac{1}{5} + \frac{1}{10}, B = \frac{1}{5} - \frac{1}{10}$$

$$C = \frac{1}{5} \times \frac{1}{10}, D = \frac{1}{5} \div \frac{1}{10}$$

Réponse

$$A = \frac{1}{5} + \frac{1}{10} = \frac{2}{10} + \frac{1}{10} = \frac{3}{10}$$

$$B = \frac{1}{5} - \frac{1}{10} = \frac{2}{10} - \frac{1}{10} = \frac{1}{10}$$

$$C = \frac{1}{5} \times \frac{1}{10} = \frac{1}{50}$$

$$D = \frac{1}{5} \div \frac{1}{10} = \frac{1}{5} \times \frac{10}{1} = \frac{10}{5} = 2$$

Exercice 4

Calculer

$$A = \frac{1}{2} + \frac{3}{8}, B = \frac{1}{2} - \frac{3}{8}$$

$$C = \frac{1}{2} \times \frac{3}{8}, D = \frac{1}{2} \div \frac{3}{8}$$

Réponse

$$A = \frac{1}{2} + \frac{3}{8} = \frac{4}{8} + \frac{3}{8} = \frac{7}{8}$$

$$B = \frac{1}{2} - \frac{3}{8} = \frac{4}{8} - \frac{3}{8} = \frac{1}{8}$$

$$C = \frac{1}{2} \times \frac{3}{8} = \frac{3}{16}$$

$$D = \frac{1}{2} \div \frac{3}{8} = \frac{1}{2} \times \frac{8}{3} = \frac{8}{6}$$

Exercice 5

Calculer

$$A = \frac{3}{5} + \frac{1}{2}, B = \frac{3}{5} - \frac{1}{2}$$

$$C = \frac{3}{5} \times \frac{1}{2}, D = \frac{3}{5} \div \frac{1}{2}$$

Réponse

$$A = \frac{3}{5} + \frac{1}{2} = \frac{6}{10} + \frac{5}{10} = \frac{11}{10}$$

$$B = \frac{3}{5} - \frac{1}{2} = \frac{6}{10} - \frac{5}{10} = \frac{1}{10}$$

$$C = \frac{3}{5} \times \frac{1}{2} = \frac{3}{10}$$

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

Exercice 6

Calculer

$$A = \frac{1}{2} + \frac{1}{3}, B = \frac{1}{2} - \frac{1}{3}$$

$$C = \frac{1}{2} \times \frac{1}{3}, D = \frac{1}{2} \div \frac{1}{3}$$

Réponse

$$A = \frac{1}{2} + \frac{1}{3} = \frac{3}{6} + \frac{2}{6} = \frac{5}{6}$$

$$B = \frac{1}{2} - \frac{1}{3} = \frac{3}{6} - \frac{2}{6} = \frac{1}{6}$$

$$C = \frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$$

$$D = \frac{1}{2} \div \frac{1}{3} = \frac{1}{2} \times \frac{3}{1} = \frac{3}{2}$$

Exercice 7

Calculer

$$A = \frac{7}{10} + \frac{4}{15}, B = \frac{7}{10} - \frac{4}{15}$$

$$C = \frac{7}{10} \times \frac{4}{15}, D = \frac{7}{10} \div \frac{4}{15}$$

Réponse

$$A = \frac{7}{10} + \frac{4}{15},$$

$$B = \frac{7}{10} - \frac{4}{15}$$

$$C = \frac{7}{10} \times \frac{4}{15}$$

$$D = \frac{7}{10} \div \frac{4}{15}$$

Exercice 8

Calculer

$$A = \frac{5}{9} + \frac{1}{6}, B = \frac{5}{9} - \frac{1}{6}$$

$$C = \frac{5}{9} \times \frac{1}{6}, D = \frac{5}{9} \div \frac{1}{6}$$

Réponse

$$A = \frac{5}{9} + \frac{1}{6} = \frac{10}{18} + \frac{3}{18} = \frac{13}{18}$$

$$B = \frac{5}{9} - \frac{1}{6} = \frac{10}{18} - \frac{3}{18} = \frac{7}{18}$$

$$C = \frac{5}{9} \times \frac{1}{6} = \frac{5}{54}$$

$$D = \frac{5}{9} \div \frac{1}{6} = \frac{5}{9} \times \frac{6}{1} = \frac{30}{9}$$

Exercice 9

Calculer

$$A = 2 + \frac{3}{5}, B = 2 - \frac{3}{5}$$

$$C = 2 \times \frac{3}{5}, D = 2 \div \frac{3}{5}$$

Réponse

$$A = 2 + \frac{3}{5} = \frac{10}{5} + \frac{3}{5} = \frac{13}{5}$$

$$B = 2 - \frac{3}{5} = \frac{10}{5} - \frac{3}{5} = \frac{7}{5}$$

$$C = 2 \times \frac{3}{5} = \frac{2}{1} \times \frac{3}{5} = \frac{6}{5}$$

$$D = 2 \div \frac{3}{5} = \frac{2}{1} \times \frac{5}{3} = \frac{10}{3}$$

Exercice 10

Calculer

$$A = 3 + \frac{1}{4}, B = 3 - \frac{1}{4}$$

$$C = 3 \times \frac{1}{4}, D = 3 \div \frac{1}{4}$$

Réponse

$$A = 3 + \frac{1}{4} = \frac{12}{4} + \frac{1}{4} = \frac{13}{4}$$

$$B = 3 - \frac{1}{4} = \frac{12}{4} - \frac{1}{4} = \frac{11}{4}$$

$$C = 3 \times \frac{1}{4} = \frac{3}{1} \times \frac{1}{4} = \frac{3}{4}$$

$$D = 3 \div \frac{1}{4} = \frac{3}{1} \times \frac{4}{1} = \frac{12}{1} = 12$$

Exercice 11

Calculer

$$A = 1 + \frac{3}{10}, B = 1 - \frac{3}{10}$$

$$C = 1 \times \frac{3}{10}, D = 1 \div \frac{3}{10}$$

Réponse

$$A = 1 + \frac{3}{10} = \frac{10}{10} + \frac{3}{10} = \frac{13}{10}$$

$$B = 1 - \frac{3}{10} = \frac{10}{10} - \frac{3}{10} = \frac{7}{10}$$

$$C = 1 \times \frac{3}{10} = \frac{3}{10}$$

$$D = 1 \div \frac{3}{10} = \frac{1}{1} \times \frac{10}{3} = \frac{10}{3}$$

Exercice 12

Calculer

$$A = \frac{2}{3} + 5, B = \frac{2}{3} - 5$$

$$C = \frac{2}{3} \times 5, D = \frac{2}{3} \div 5$$

Réponse

$$A = \frac{2}{3} + 5 = \frac{2}{3} + \frac{15}{3} = \frac{17}{3}$$

$$B = \frac{2}{3} - 5 = \frac{2}{3} - \frac{15}{3} = -\frac{13}{3}$$

$$C = \frac{2}{3} \times 5 = \frac{2}{3} \times \frac{5}{1} = \frac{10}{3}$$

$$D = \frac{2}{3} \div 5 = \frac{2}{3} \div \frac{5}{1} = \frac{2}{3} \times \frac{1}{5} = \frac{2}{15}$$

Exercice 13

Calculer

$$A = \frac{5}{7} + 2, B = \frac{5}{7} - 2$$

$$C = \frac{5}{7} \times 2, D = \frac{5}{7} \div 2$$

Réponse

$$A = \frac{5}{7} + 2 = \frac{5}{7} + \frac{14}{7} = \frac{19}{7}$$

$$B = \frac{5}{7} - 2 = \frac{5}{7} - \frac{14}{7} = -\frac{9}{7}$$

$$C = \frac{5}{7} \times 2 = \frac{5}{7} \times \frac{2}{1} = \frac{10}{7}$$

$$D = \frac{5}{7} \div 2 = \frac{5}{7} \div \frac{2}{1} = \frac{5}{7} \times \frac{1}{2} = \frac{5}{14}$$

Exercice 14

Calculer

$$A = \frac{\frac{4}{5}}{\frac{3}{7}} \quad B = \frac{\frac{3}{4}}{\frac{7}{2}} \quad C = \frac{\frac{5}{2}}{\frac{7}{7}}$$

Réponse

$$A = \frac{\frac{4}{5}}{\frac{3}{7}} = \frac{4}{5} \div \frac{3}{7} = \frac{4}{5} \times \frac{7}{3} = \frac{28}{15}$$

$$B = \frac{\frac{3}{4}}{\frac{7}{2}} = \frac{3}{4} \div \frac{7}{2} = \frac{3}{4} \times \frac{2}{7} = \frac{3}{14}$$

$$C = \frac{\frac{5}{2}}{\frac{7}{7}} = \frac{5}{2} \div \frac{7}{7} = \frac{5}{2} \div 1 = \frac{5}{2} \times \frac{1}{1} = \frac{5}{2}$$

Exercice 15

Calculer

$$A = \frac{\frac{1}{5}}{\frac{1}{7}} \quad B = \frac{\frac{1}{4}}{\frac{7}{2}} \quad C = \frac{\frac{1}{1}}{\frac{7}{7}}$$

Réponse

$$A = \frac{\frac{1}{5}}{\frac{1}{7}} = \frac{1}{5} \div \frac{1}{7} = \frac{1}{5} \times \frac{7}{1} = \frac{7}{5}$$

$$B = \frac{\frac{1}{4}}{\frac{7}{2}} = \frac{1}{4} \div \frac{7}{2} = \frac{1}{4} \times \frac{2}{7} = \frac{1}{14}$$

$$C = \frac{\frac{1}{1}}{\frac{7}{7}} = 1 \div \frac{7}{7} = 1 \times \frac{7}{7} = 1$$

Exercice 16

Que peut-on dire des fractions $\frac{-2}{7}$, $\frac{2}{-7}$ et $-\frac{2}{7}$?

Que peut-on dire des fractions $\frac{-2}{-7}$ et $\frac{2}{7}$?

Réponse

$$\frac{-2}{7} = \frac{2}{-7} = -\frac{2}{7}$$

$$\frac{-2}{-7} = \frac{2}{7}$$

Exercice 17

Calculer

$$A = \frac{-2}{7} + \frac{-1}{7}, B = \frac{-2}{7} - \frac{-1}{7}$$

$$C = \frac{-2}{7} \times \frac{-1}{7}, D = \frac{-2}{7} \div \frac{-1}{7}$$

Réponse

$$A = \frac{-2}{7} + \frac{-1}{7} = \frac{-3}{7}$$

$$B = \frac{-2}{7} - \frac{-1}{7} = \frac{-2}{7} + \frac{1}{7} = \frac{-1}{7}$$

$$C = \frac{-2}{7} \times \frac{-1}{7} = \frac{2}{7}$$

$$D = \frac{-2}{7} \div \frac{-1}{7} = \frac{2}{7} \div \frac{1}{7} = \frac{2}{7} \times \frac{7}{1} = \frac{2}{1} = 2$$

Exercice 18

Calculer

$$A = \frac{-1}{2} + \frac{-3}{5}, B = \frac{-1}{2} - \frac{-3}{5}$$

$$C = \frac{-1}{2} \times \frac{-3}{5}, D = \frac{-1}{2} \div \frac{-3}{5}$$

Réponse

$$A = \frac{-1}{2} + \frac{-3}{5} = \frac{-5}{10} + \frac{-6}{10} = \frac{-11}{10}$$

$$B = \frac{-1}{2} - \frac{-3}{5} = \frac{-1}{2} + \frac{3}{5} = \frac{-5}{10} + \frac{6}{10} = \frac{1}{10}$$

$$C = \frac{-1}{2} \times \frac{-3}{5} = \frac{3}{10}$$

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

Exercice 19

Calculer

$$A = -\frac{1}{2} + \frac{1}{6}, B = -\frac{1}{2} - \frac{1}{6}$$

$$C = -\frac{1}{2} \times \frac{1}{6}, D = -\frac{1}{2} \div \frac{1}{6}$$

Réponse

$$A = -\frac{1}{2} + \frac{1}{6} = \frac{-3}{6} + \frac{1}{6} = \frac{-2}{6}$$

$$B = -\frac{1}{2} - \frac{1}{6} = \frac{-3}{6} - \frac{1}{6} = \frac{-4}{6}$$

$$C = -\frac{1}{2} \times \frac{1}{6} = \frac{-1}{12}$$

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

Exercice 20

On donne $a = \frac{2}{3}$

Calculer : $A = 2a$, $B = 2 + a$ et $C = a^2$

Réponse

$$a = \frac{2}{3}$$

$$A = 2a = 2 \times \frac{2}{3} = \frac{4}{3}$$

$$B = 2+a = 2 + \frac{2}{3} = \frac{6}{3} + \frac{2}{3} = \frac{8}{3}$$

$$C = a^2 = \left(\frac{2}{3}\right)^2 = \frac{2}{3} \times \frac{2}{3} = \frac{4}{9}$$

Exercice 21

On donne $a = \frac{4}{5}$

Calculer : $A = 3a$, $B = 1 - a$ et $C = a^2$

Réponse

$$a = \frac{4}{5}$$

$$A = 3a = 3 \times \frac{4}{5} = \frac{12}{5}$$

$$B = 1-a = 1 - \frac{4}{5} = \frac{5}{5} - \frac{4}{5} = \frac{1}{5}$$

$$C = a^2 = \left(\frac{4}{5}\right)^2 = \frac{4}{5} \times \frac{4}{5} = \frac{16}{25}$$

Exercice 22

Calculer

On donne $a = -\frac{1}{2}$

Calculer : $A = 5a$, $B = 1 - a$ et $C = a^2$

Réponse

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

$$A = 5a = 5 \times \frac{-1}{2} = \frac{-5}{2}$$

$$B = 1-a = 1 - \frac{-1}{2} = \frac{2}{2} + \frac{1}{2} = \frac{3}{2}$$

$$C = a^2 = \left(\frac{-1}{2}\right)^2 = \frac{-1}{2} \times \frac{-1}{2} = \frac{1}{4}$$

Exercice 23

On donne $a = \frac{3}{4}$ et $b = \frac{1}{2}$

Calculer $A = a + b$, $B = ab$, $C = \frac{a}{b}$ et $D = \frac{b}{a}$.

Réponse

$$a = \frac{3}{4} \text{ et } b = \frac{1}{2}$$

$$A = a+b = \frac{3}{4} + \frac{1}{2} = \frac{3}{4} + \frac{2}{4} = \frac{5}{4}$$

$$B = ab = \frac{3}{4} \times \frac{1}{2} = \frac{3}{8}$$

$$C = \frac{a}{b} = \frac{3}{4} \div \frac{1}{2} = \frac{3}{4} \times \frac{2}{1} = \frac{6}{4}$$

$$D = \frac{b}{a} = \frac{1}{2} \div \frac{3}{4} = \frac{1}{2} \times \frac{4}{3} = \frac{4}{6}$$