

502 DS01 19 SEPT 2022 30 min

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Les réponses seront données sous la forme d'une fraction irréductible ou, le cas échéant, sous la forme d'un nombre entier.

Exercice 1 [7 points]

$$A = 12 - 5 \times 2 =$$

$$B = 40 : 10 : 2 =$$

$$C = 0,5 \times 8 =$$

$$D = 12 - 12 \times 0,25 =$$

$$E = 3 + 4 - 2 \times 3 =$$

$$F = 12^2 - 14,4 \times 10$$

$$G = (7 - 2)^2 - (5 - 2)^2$$

Exercice 2 [3 points]

$$H = \frac{35}{14} =$$

$$I = \frac{16}{48} =$$

$$J = \frac{75}{225} =$$

Exercice 3 [5,5 points]

$$K = \frac{5}{7} + \frac{3}{7} =$$

$$L = \frac{13}{4} - \frac{1}{2} =$$

$$M = \frac{5}{12} + \frac{1}{6} =$$

$$N = \frac{23}{7} - \frac{5}{14} =$$

$$P = \frac{1}{10} + \frac{7}{15} =$$

$$Q = \frac{1}{2} + \frac{2}{3} + \frac{7}{6} =$$

Exercice 4 [1 point]

$$R = \frac{8 - 2 \times 3}{1 + 2^2} =$$

Exercice 5 [1,5 points]

Simplifier :

$$S = 7 \times \frac{3}{7} =$$

$$T = \frac{850}{13} \times 13 =$$

$$U = \frac{17}{450} \times 900 =$$

Exercice 6 [2 points]

$$V = \frac{5}{3} \times \frac{7}{4} =$$

Corrigé

Exercice 1

$$A = 12 - 5 \times 2 = 12 - 10 = 2$$

$$B = 40 : 10 : 2 = 4 : 2 = 2$$

$$C = 0,5 \times 8 = 4$$

$$D = 12 - 12 \times 0,25 = 12 - 3 = 9$$

$$E = 3 + 4 - 2 \times 3 = 3 + 4 - 6 = 7 - 6 = 1$$

$$F = 12^2 - 14,4 \times 10 = 12 \times 12 - 144 = 144 - 144 = 0$$

$$G = (7 - 2)^2 - (5 - 2)^2 = 5^2 - 3^2 = 25 - 9 = 16$$

Exercice 2

$$H = \frac{35}{14} = \frac{\boxed{7} \times 5}{\boxed{7} \times 2} = \frac{5}{2} \quad I = \frac{16}{48} = \frac{\boxed{16} \times 1}{\boxed{16} \times 3} = \frac{1}{3}$$

$$J = \frac{75}{225} = \frac{\boxed{75} \times 1}{\boxed{75} \times 3} = \frac{1}{3}$$

Exercice 3

$$K = \frac{5}{7} + \frac{3}{7} = \frac{5+3}{7} = \frac{8}{7}$$

$$L = \frac{13}{4} - \frac{1}{2} = \frac{13}{4} - \frac{2}{4} = \frac{13-2}{4} = \frac{11}{4}$$

$$M = \frac{5}{12} + \frac{1}{6} = \frac{5}{12} + \frac{1 \times \boxed{2}}{6 \times \boxed{2}} = \frac{5}{12} + \frac{2}{12} = \frac{5+2}{12} = \frac{7}{12}$$

$$N = \frac{23}{7} - \frac{5}{14} = \frac{23 \times \boxed{2}}{7 \times \boxed{2}} - \frac{5}{14} = \frac{46}{14} - \frac{5}{14} = \frac{46-5}{14} = \frac{41}{14}$$

$$P = \frac{1}{10} + \frac{7}{15} = \frac{1 \times \boxed{3}}{10 \times \boxed{3}} + \frac{7 \times \boxed{2}}{15 \times \boxed{2}} = \frac{3}{30} + \frac{14}{30} = \frac{3+14}{30} = \frac{17}{30}$$

$$Q = \frac{1}{2} + \frac{2}{3} + \frac{7}{6} = \frac{1 \times \boxed{3}}{2 \times \boxed{3}} + \frac{2 \times \boxed{2}}{3 \times \boxed{2}} + \frac{7}{6} = \frac{3}{6} + \frac{4}{6} + \frac{7}{6} \\ = \frac{3+4+7}{6} = \frac{14}{6} = \frac{\boxed{2} \times 7}{\boxed{2} \times 3} = \frac{7}{3}$$

Exercice 4

$$R = \frac{8 - 2 \times 3}{1 + 2^2} = \frac{8 - 6}{1 + 4} = \frac{2}{5}$$

Exercice 5

$$S = 7 \times \frac{3}{7} = 3$$

$$T = \frac{850}{13} \times 13 = 850$$

$$U = \frac{17}{450} \times 900 = \frac{17}{450} \times 450 \times 2 = 17 \times 2 = 34$$

Exercice 6

$$V = \frac{5}{3} \times \frac{7}{4} = \frac{5 \times 7}{3 \times 4} = \frac{35}{12}$$