

Mathématiques - 5eme
Correction de l'Evaluation n°10

► **Exercice 1 :**

version A

$$1. \frac{63}{14} = \frac{7 \times 9}{7 \times 2} = \frac{9}{2}$$

$$2. \frac{25}{100} = \frac{25 \times 1}{25 \times 4} = \frac{1}{4}$$

version B

$$1. \frac{49}{63} = \frac{7 \times 7}{7 \times 9} = \frac{7}{9}$$

$$2. \frac{75}{100} = \frac{25 \times 3}{25 \times 4} = \frac{3}{4}$$

version C

$$1. \frac{54}{45} = \frac{67 \times 9}{5 \times 9} = \frac{6}{5}$$

$$2. \frac{40}{100} = \frac{4 \times 10}{10 \times 10} = \frac{4}{10} = \frac{2}{5}$$

version D

$$1. \frac{48}{56} = \frac{6 \times 8}{7 \times 8} = \frac{6}{7}$$

$$2. \frac{60}{100} = \frac{6 \times 10}{10 \times 10} = \frac{6}{10} = \frac{3}{5}$$

► **Exercice 2 :**

version A

$$\frac{21}{33} + \frac{12}{33} = \frac{33}{33} = 1$$

$$\frac{10}{14} - \frac{3}{7} = \frac{10}{14} - \frac{3 \times 2}{7 \times 2} = \frac{10}{14} - \frac{6}{14} = \frac{4}{14} = \frac{2 \times 2}{7 \times 2} = \frac{2}{7}$$

$$3 - \frac{5}{9} = \frac{3 \times 9}{9} - \frac{5}{9} = \frac{27}{9} - \frac{5}{9} = \frac{22}{9}$$

$$\frac{38}{80} - \frac{2}{8} = \frac{38}{80} - \frac{2 \times 10}{8 \times 10} = \frac{38}{80} - \frac{20}{80} = \frac{18}{80} = \frac{2 \times 9}{2 \times 40} = \frac{9}{40}$$

$$\frac{5}{3} + \frac{6}{15} = \frac{5 \times 5}{3 \times 5} + \frac{6}{15} = \frac{25}{15} + \frac{6}{15} = \frac{31}{15}$$

$$\frac{11}{27} + \frac{7}{3} = \frac{11}{27} + \frac{7 \times 9}{3 \times 9} = \frac{11}{27} + \frac{63}{27} = \frac{74}{27}$$

$$\frac{8}{35} + \frac{1}{5} - \frac{2}{7} = \frac{8}{35} + \frac{1 \times 7}{5 \times 7} - \frac{2 \times 5}{7 \times 5} = \frac{8}{35} + \frac{7}{35} - \frac{10}{35} = \frac{5}{35} = \frac{1}{7}$$

$$\frac{11}{12} - \left(\frac{5}{12} + \frac{1}{3} \right) = \frac{11 \times 3}{4 \times 3} - \left(\frac{5}{12} + \frac{1 \times 4}{3 \times 4} \right) = \frac{33}{12} - \left(\frac{5}{12} + \frac{4}{12} \right) = \frac{33}{12} - \frac{9}{12} = \frac{24}{12} = 2$$

version B

$$\frac{13}{27} - \frac{10}{27} = \frac{3}{27} = \frac{1}{9}$$

$$\frac{9}{4} + \frac{2}{28} = \frac{9 \times 7}{4 \times 7} + \frac{2}{28} = \frac{63}{28} + \frac{2}{28} = \frac{63+2}{28} = \frac{65}{28}$$

$$2 + \frac{10}{9} = \frac{2 \times 9}{1 \times 9} + \frac{10}{9} = \frac{28}{9}$$

$$\frac{9}{8} - \frac{38}{40} = \frac{9 \times 5}{8 \times 5} - \frac{38}{40} = \frac{7}{40}$$

$$\frac{7}{4} - \frac{10}{12} = \frac{7 \times 3}{4 \times 3} - \frac{10}{12} = \frac{21}{12} - \frac{10}{12} = \frac{11}{12}$$

$$\frac{6}{70} + \frac{1}{7} = \frac{6}{70} + \frac{1 \times 10}{7 \times 10} = \frac{6}{70} + \frac{10}{70} = \frac{16}{70} = \frac{8}{35}$$

$$\frac{5}{9} - \frac{5}{54} + \frac{1}{6} = \frac{5 \times 6}{9 \times 6} - \frac{5}{54} + \frac{1 \times 9}{6 \times 9} = \frac{30}{54} - \frac{5}{54} + \frac{9}{54} = \frac{34}{54} = \frac{17}{27}$$

$$\frac{9}{5} - \left(\frac{7}{15} + \frac{1}{3} \right) = \frac{9 \times 3}{5 \times 3} - \left(\frac{7}{15} + \frac{1 \times 5}{3 \times 5} \right) = \frac{27}{15} - \left(\frac{7}{15} + \frac{5}{15} \right) = \frac{27}{15} - \frac{12}{15} = \frac{15}{15} = 1$$

version C

$$\frac{27}{23} + \frac{19}{23} = \frac{46}{23} = 2$$

$$\frac{7}{6} - \frac{9}{60} = \frac{7 \times 10}{6 \times 10} - \frac{9}{60} = \frac{70}{60} - \frac{9}{60} = \frac{61}{60}$$

$$\frac{8}{5} + \frac{11}{45} = \frac{8 \times 9}{5 \times 9} + \frac{11}{45} = \frac{72}{45} + \frac{11}{45} = \frac{83}{45}$$

$$2 - \frac{4}{9} = \frac{2 \times 9}{1 \times 9} - \frac{4}{9} = \frac{18}{9} - \frac{4}{9} = \frac{14}{9}$$

$$\frac{5}{2} + \frac{19}{18} = \frac{5 \times 9}{2 \times 9} + \frac{19}{18} = \frac{45}{18} + \frac{19}{18} = \frac{64}{18} = \frac{32 \times 2}{9 \times 2} = \frac{32}{9}$$

$$\frac{21}{27} - \frac{2}{9} = \frac{21}{27} - \frac{2 \times 3}{9 \times 3} = \frac{21}{27} - \frac{6}{27} = \frac{15}{27} = \frac{5}{9}$$

$$\frac{8}{35} + \frac{1}{5} - \frac{2}{7} = \frac{8}{35} + \frac{1 \times 7}{5 \times 7} - \frac{2 \times 5}{7 \times 5} = \frac{8}{35} + \frac{7}{35} - \frac{10}{35} = \frac{5}{35} = \frac{1}{7}$$

$$\frac{11}{12} - \left(\frac{5}{12} + \frac{1}{3} \right) = \frac{11 \times 3}{4 \times 3} - \left(\frac{5}{12} + \frac{1 \times 4}{3 \times 4} \right) = \frac{33}{12} - \left(\frac{5}{12} + \frac{4}{12} \right) = \frac{33}{12} - \frac{9}{12} = \frac{24}{12} = 2$$

version D

$$\frac{13}{21} - \frac{10}{21} = \frac{3}{21} = \frac{1}{7}$$

$$\frac{9}{16} + \frac{5}{2} = \frac{9}{16} + \frac{5 \times 8}{2 \times 8} = \frac{9}{16} + \frac{40}{16} = \frac{9+40}{16} = \frac{49}{16}$$

$$\frac{46}{28} - \frac{5}{4} = \frac{46}{28} - \frac{5 \times 7}{4 \times 7} = \frac{46}{28} - \frac{35}{28} = \frac{46-35}{28} = \frac{11}{28}$$

$$2 - \frac{7}{9} = \frac{2 \times 9}{9} - \frac{7}{9} = \frac{18}{9} - \frac{7}{9} = \frac{11}{9}$$

$$\frac{5}{8} + \frac{1}{72} = \frac{5 \times 9}{8 \times 9} + \frac{1}{72} = \frac{45}{72} + \frac{1}{72} = \frac{45+1}{72} = \frac{46}{72} = \frac{23 \times 2}{36 \times 2} = \frac{23}{36}$$

$$\frac{1}{27} + \frac{5}{9} = \frac{1}{27} + \frac{5 \times 3}{9 \times 3} = \frac{1}{27} + \frac{15}{27} = \frac{1+15}{27} = \frac{16}{27}$$

$$\frac{5}{9} - \frac{5}{54} + \frac{1}{6} = \frac{5 \times 6}{9 \times 6} - \frac{5}{54} + \frac{1 \times 9}{6 \times 9} = \frac{30}{54} - \frac{5}{54} + \frac{9}{54} = \frac{34}{54} = \frac{17}{27}$$

$$\frac{9}{5} - \left(\frac{7}{15} + \frac{1}{3} \right) = \frac{9 \times 3}{5 \times 3} - \left(\frac{7}{15} + \frac{1 \times 5}{3 \times 5} \right) = \frac{27}{15} - \left(\frac{7}{15} + \frac{5}{15} \right) = \frac{27}{15} - \frac{12}{15} = \frac{15}{15} = 1$$

► Exercice 3 :

versions A et C

$$1. 1 - \left(\frac{7}{30} + \frac{3}{5}\right) = \frac{30}{30} - \left(\frac{7}{30} + \frac{18}{30}\right) = \frac{30}{30} - \frac{25}{30} = \frac{5}{30} = \frac{1}{6}$$

Arnaud aura donc $\frac{1}{6}$ des cartes.

$$2. 90 \times \frac{1}{6} = \frac{90}{6} = 15$$

Arnaud aura 15 cartes.

$$90 \times \frac{7}{30} = \frac{90}{30} \times 7 = 3 \times 7 = 21$$

Yann aura 21 cartes.

$$90 \times \frac{3}{5} = \frac{90}{5} \times 3 = 18 \times 3 = 54$$

Nicolas aura 54 cartes.

version B

$$1. 1 - \left(\frac{9}{30} + \frac{2}{5}\right) = \frac{30}{30} - \left(\frac{9}{30} + \frac{128}{30}\right) = \frac{30}{30} - \frac{21}{30} = \frac{9}{30} = \frac{3}{10}$$

Arnaud aura donc $\frac{3}{10}$ des cartes.

$$2. 90 \times \frac{3}{10} = \frac{90}{10} \times 3 = 9 \times 3 = 27$$

Yann et Arnaud auront donc 27 cartes chacun.

$$90 \times \frac{2}{5} = \frac{90}{5} \times 2 = 18 \times 2 = 36$$

Nicolas aura 36 cartes.

version D

$$1. 1 - \left(\frac{9}{30} + \frac{2}{5}\right) = \frac{30}{30} - \left(\frac{9}{30} + \frac{128}{30}\right) = \frac{30}{30} - \frac{21}{30} = \frac{9}{30} = \frac{3}{10}$$

Arnaud aura donc $\frac{3}{10}$ des cartes.

$$2. 80 \times \frac{3}{10} = \frac{80}{10} \times 3 = 8 \times 3 = 24$$

Yann et Arnaud auront donc 24 cartes chacun.

$$80 \times \frac{2}{5} = \frac{80}{5} \times 2 = 16 \times 2 = 32$$

Nicolas aura 32 cartes.