

Correction du DS 5

Exercice 1

$$A=3 \times (y+5)=3 \times y+3 \times 5=3y+15.$$

$$B=3(b-4)=3 \times b-3 \times 4=3b-12.$$

$$C=-2y(3y+5)=-2y \times 3y-2y \times 5=-6y^2-10y.$$

$$D=(x+1)(x+5)=x \times x+x \times 5+1 \times x+1 \times 5=x^2+6x+5.$$

$$E=(5u+1)(2-3u)=5u \times 2-5u \times 3u+1 \times 2-1 \times 3u=10u-15u^2+2-3u=7u-15u^2+2.$$

$$F=6+(5y-2)(3-4y)=6+5y \times 3-5y \times 4y-2 \times 3+2 \times 4y=6+15y-20y^2-6+8y=23y-20y^2.$$

Exercice 2

$$1) A=4a^2+3a=a(4a+3).$$

$$B=18b+24b^2=3 \times 6b+4b \times 6b=(3+4b) \times 6b.$$

$$2) C=5x(x-1)+2(x-1)=(5x+2)(x-1).$$

$$3) D=(3y+7)(2y-9)+(3y+7)(5y-7)=(3y+7)[(2y-9)+(5y-7)]=(3y+7)(2y-9+5y-7)=(3y+7)(7y-16).$$

Exercice 3

$$1) \frac{2}{3} < \frac{4}{3} \quad \frac{10}{7} < \frac{10}{4} \quad \frac{3,2}{5} > \frac{6,04}{10}$$

$$2) -\frac{11}{8} = -\frac{11 \times 5}{8 \times 5} = -\frac{55}{40} \text{ et } -\frac{9}{5} = -\frac{9 \times 8}{5 \times 8} = -\frac{72}{40}. \text{ Or } -55 > -72$$

$$\text{donc } -\frac{11}{8} > -\frac{9}{5}.$$

Exercice 4

$$1) 3 \rightarrow 3-8=-5 \rightarrow -5 \times (-4)=20 \rightarrow 20+4 \times 3=20+12=32.$$

$$-2 \rightarrow -2-8=-10 \rightarrow -10 \times (-4)=40 \rightarrow 40+4 \times (-2)=40-8=32.$$

$$2) x \rightarrow x-8 \rightarrow -4(x-8) \rightarrow -4(x-8)+4x$$

Exercice 5

$$1) A = \frac{1}{6} + \frac{3}{6} = \frac{4}{6} = \frac{2}{3} \quad B = \frac{31}{14} - \frac{5}{14} = \frac{26}{14} = \frac{13}{7}$$

$$C = \frac{16}{28} - \frac{7}{28} - \frac{5}{28} = \frac{4}{28} = \frac{1}{7}$$

$$2) D = \frac{5}{4} - \frac{3}{16} = \frac{5 \times 4}{4 \times 4} - \frac{3}{16} = \frac{20-3}{16} = \frac{17}{16}$$

$$E = 1 - \frac{17}{15} = \frac{15}{15} - \frac{17}{15} = -\frac{2}{15}$$

$$F = \frac{9}{10} + \frac{-5}{2} = \frac{9}{10} - \frac{5 \times 5}{2 \times 5} = \frac{9-25}{10} = -\frac{16}{10} = -\frac{8}{5}$$

$$3) G = \frac{7}{35} + \frac{8}{15} = \frac{7 \times 1}{7 \times 5} + \frac{8}{15} = \frac{1}{5} + \frac{8}{15} = \frac{3}{15} + \frac{8}{15} = \frac{11}{15}$$

$$H = -\frac{5}{4} + \frac{2}{3} - \frac{-7}{5} = -\frac{5 \times 15}{4 \times 15} + \frac{2 \times 20}{3 \times 20} + \frac{7 \times 12}{5 \times 12} = \frac{-75+40+84}{60} = \frac{49}{60}$$

Problème

Les fleurs $\frac{2}{5}$, les arbres $\frac{1}{7}$, les légumes $\frac{3}{14}$.

La pelouse correspond à $\frac{17}{70}$ puisque

$$1 - \frac{2}{5} - \frac{1}{7} - \frac{3}{14} = \frac{70}{70} - \frac{2 \times 14}{5 \times 14} - \frac{10}{7 \times 10} - \frac{3 \times 5}{14 \times 5} = \frac{70-28-10-15}{70}.$$

Correction du DS 5

Exercice 1

$$A = 3 \times (y + 5) = 3 \times y + 3 \times 5 = 3y + 15.$$

$$B = 3(b - 4) = 3 \times b - 3 \times 4 = 3b - 12.$$

$$D = (x + 1)(x + 5) = x \times x + x \times 5 + 1 \times x + 1 \times 5 = x^2 + 6x + 5.$$

Exercice 2

$$1) A = 4a^2 + 3a = a(4a + 3).$$

$$2) C = 5x(x - 1) + 2(x - 1) = (5x + 2)(x - 1).$$

Exercice 3

$$1) \frac{2}{3} < \frac{4}{3}$$

$$2) \frac{10}{7} < \frac{10}{4}$$

Exercice 4

$$A = 2x(x - 3) = 2x^2 + (-6x)$$

$$B = (5x + 2) \times 4x = 20x^2 + 8x$$

$$C = (x + 1)(4 - x) = -x^2 + 3x + 4$$

$$D = (x - 2)(3x - 1) = 3x^2 + (-7x) + 2$$

Exercice 5

$$1) 1) A = \frac{1}{6} + \frac{3}{6} = \frac{4}{6} = \frac{2}{3} \quad B = \frac{31}{14} - \frac{5}{14} = \frac{26}{14} = \frac{13}{7}$$

$$C = \frac{16}{28} - \frac{7}{28} - \frac{5}{28} = \frac{4}{28} = \frac{1}{7}$$

$$2) D = \frac{5}{4} - \frac{3}{16} = \frac{5 \times 4}{4 \times 4} - \frac{3}{16} = \frac{20 - 3}{16} = \frac{17}{16}$$

$$E = 1 - \frac{17}{15} = \frac{15}{15} - \frac{17}{15} = -\frac{2}{15}$$

$$F = \frac{9}{10} + \frac{-5}{2} = \frac{9}{10} - \frac{5 \times 5}{2 \times 5} = \frac{9 - 25}{10} = -\frac{16}{10} = -\frac{8}{5}$$

Problème

Le lundi, il réussit $\frac{15}{25} = \frac{3}{5} = \frac{60}{100}$ paniers.

Le mardi, il réussit $\frac{7}{10} = \frac{70}{100}$ paniers.

Le mercredi, il réussit $65\% = \frac{65}{100}$ paniers.

Il a été le meilleur le mardi.