

Corrections Calculs n°1**Exercice 1 :**

a) $168 = 2^3 \times 3 \times 7$	et $360 = 2^3 \times 3^2 \times 5$	$PGCD(168; 360) = 24$
b) $252 = 2^2 \times 3^2 \times 7$	et $684 = 2^2 \times 3^2 \times 19$	$PGCD(252; 684) = 36$
c) $336 = 2^4 \times 3 \times 7$	et $462 = 2 \times 3 \times 7 \times 11$	$PGCD(336; 462) = 42$
d) $1840 = 2^4 \times 5 \times 23$	et $1260 = 2^2 \times 3^2 \times 5 \times 7$	$PGCD(1840; 1260) = 20$

Exercice 2 :

a) $360 = 2^3 \times 3^2 \times 5$	et $504 = 2^3 \times 3^2 \times 7$	$PPCM(360; 504) = 2520$
b) $252 = 2^2 \times 3^2 \times 7$	et $672 = 2^5 \times 3 \times 7$	$PPCM(252; 672) = 2016$
c) $972 = 2^2 \times 3^5$	et $1134 = 2 \times 3^4 \times 7$	$PPCM(972; 1134) = 6804$
d) $720 = 2^4 \times 3^2 \times 5$	et $900 = 2^2 \times 3^2 \times 5^2$	$PPCM(720; 900) = 3600$

Exercice 3 :

$A = \frac{31}{450}$	$B = \frac{30}{41}$	$C = \frac{18}{35}$	$D = \frac{32}{35}$	$E = -\frac{6}{41}$	$F = \frac{21}{16}$	$G = \frac{7}{10}$
$H = -\frac{15}{4}$	$I = \frac{57}{56}$	$J = -\frac{23}{15}$				

Corrections Calculs n°2**Exercice 1 :**

$$A = 2^4 \quad B = 3^{-4} \quad C = 7^{-1} \quad D = 5^{14} \quad E = -2^{22}$$

Exercice 2 :

$$A = 3 \quad B = 4$$

Exercice 3 :

$$A = \frac{3}{2^8} \times 10^{-1} \quad B = \frac{49}{40} \times 10^{-1} \quad A \text{ et } B \text{ sont des nombres décimaux}$$

Exercice 4 :

$$A = 162 \quad B = 2003000 \quad C = 1,00001 \quad D = 79 \quad E = -34 \quad F = 1709 \quad G = 2,3$$

Exercice 5 :

$A = \frac{9x+16}{4}$	$B = \frac{10x+9}{12}$	$C = \frac{-13x+46}{15}$	$D = \frac{-7x-18}{12}$	$E = \frac{-12y+19}{15}$
$F = \frac{45y-35}{24}$	$G = \frac{-29}{12}$	$H = \frac{47x-37y-6}{21}$		

Corrections Calculs n°3**Exercice 1 :**

$\sqrt{20} = 2\sqrt{5}$	$\sqrt{72} = 6\sqrt{2}$	$\sqrt{50} = 5\sqrt{2}$	$\sqrt{343} = 7\sqrt{7}$	$\sqrt{112} = 4\sqrt{7}$
$\sqrt{24} = 2\sqrt{6}$	$\sqrt{96} = 4\sqrt{6}$	$\sqrt{125} = 5\sqrt{5}$	$\sqrt{32} = 4\sqrt{2}$	$\sqrt{175} = 5\sqrt{7}$
$\sqrt{75} = 5\sqrt{3}$	$\sqrt{98} = 7\sqrt{2}$	$\sqrt{363} = 11\sqrt{3}$	$\sqrt{108} = 6\sqrt{3}$	$\sqrt{275} = 5\sqrt{11}$
$\sqrt{12} = 2\sqrt{3}$	$\sqrt{80} = 4\sqrt{5}$	$\sqrt{45} = 3\sqrt{5}$	$\sqrt{150} = 5\sqrt{6}$	$\sqrt{320} = 8\sqrt{5}$

$\sqrt{294} = 7\sqrt{6}$	$\sqrt{405} = 9\sqrt{5}$	$\sqrt{700} = 10\sqrt{7}$	$\sqrt{396} = 6\sqrt{11}$	$243 = 9\sqrt{3}$
$\sqrt{363} = 11\sqrt{3}$	$\sqrt{108} = 6\sqrt{3}$	$\sqrt{847} = 11\sqrt{7}$	$\sqrt{192} = 8\sqrt{3}$	$\sqrt{486} = 9\sqrt{6}$
$\sqrt{252} = 6\sqrt{7}$	$\sqrt{448} = 8\sqrt{7}$	$\sqrt{245} = 7\sqrt{5}$	$\sqrt{153} = 3\sqrt{17}$	$\sqrt{605} = 11\sqrt{5}$
$\sqrt{338} = 13\sqrt{2}$	$\sqrt{810} = 9\sqrt{10}$	$\sqrt{726} = 11\sqrt{6}$	$\sqrt{147} = 7\sqrt{3}$	$\sqrt{180} = 6\sqrt{5}$

Exercice 2 :

$$A = 9\sqrt{6} \quad B = 120\sqrt{5} \quad C = -25\sqrt{3} \quad D = 72\sqrt{3} \quad E = -8\sqrt{7} \quad F = 240\sqrt{10}$$

Exercice 3 :

$$A = -80 \quad B = 3 \quad C = 4$$

Exercice 4 :

$$A = 116 + 16\sqrt{30} \quad B = 230 + 40\sqrt{30}$$

Corrections Calculs algébriques n°1Exercice 1 :

$$\begin{aligned} A &= x^2 - 2x - 15 & B &= 20x^2 - 19x + 3 & C &= -2x^2 + 3x - 1 & D &= 5x^2 + 16x + 6 \\ E &= 6x^2 + 14xx - 10 & F &= 6x^2 - 8x - 1 & G &= 3x^2 - 15x + 12 \end{aligned}$$

Exercice 2 :

$$\begin{aligned} A &= x^2 + 10x + 25 & B &= 9x^2 + 30x + 25 & C &= \frac{9}{25}x^2 + \frac{24}{5}x + 16 & D &= 9x^2 - 30x + 25 \\ E &= 25x^2 - 60x + 36 & F &= \frac{1}{4}x^2 - 2x + 4 & G &= x^2 - 64 & H &= 9x^2 - 4 \\ I &= -16x^2 + 9 & J &= \frac{4}{9}x^2 - \frac{4}{49} \end{aligned}$$

Exercice 3 :

$$\begin{aligned} A &= (x+3)^2 & B &= (3x-2)^2 & C &= \left(\frac{1}{2}x-1\right)^2 & D &= (x-4)(x+4) & E &= (2x+9)(2x-9) \\ F &= (5x+1)(-x-3) & G &= (-2x-3)(4x-5) & H &= (3x-2)(5x-4) & I &= (2x-3)(5x-4) \\ J &= (2x+3)(2x-5) \end{aligned}$$

Exercice 4 :

$$\begin{aligned} (E_1) : S_1 &= \left\{-\frac{7}{3}\right\} & (E_2) : S_2 &= \left\{-\frac{4}{7}\right\} & (E_3) : S_3 &= \{-11\} & (E_4) : S_4 &= \left\{\frac{7}{5}; -\frac{7}{5}\right\} & (E_5) : S_5 &= \{-2; 2\} \\ (E_6) : S_6 &= \{ \} & (E_7) : S_7 &= \left\{-\frac{1}{3}; \frac{1}{2}\right\} & (E_8) : S_8 &= \left\{-\frac{4}{5}; -\frac{1}{6}\right\} & (E_9) : S_9 &= \left\{\frac{1}{5}; 1\right\} & (E_{10}) : S_{10} &= \left\{-1; \frac{5}{2}\right\} \\ (E_{11}) : S_{11} &= \left\{2; \frac{5}{18}\right\} \end{aligned}$$

Facultatif :

$$(E_{12}) : S_{12} = \left\{ \frac{73}{9} \right\} \quad (E_{13}) : S_{13} = \left\{ -\frac{1}{3}; -\frac{3}{8} \right\} \quad (E_{14}) : S_{14} = \left\{ \frac{8}{9}; -\frac{8}{9} \right\} \quad (E_{15}) : S_{15} = \{ \quad \}$$

$$(E_{16}) : S_{16} = \{-6\} \quad (E_{17}) : S_{17} = \{10\} \quad (E_{18}) : S_{18} = \{4\} \quad (E_{19}) : S_{19} = \left\{ \frac{17}{13} \right\} \quad (E_{20}) : S_{20} = \{-2\}$$

Corrections Calculs algébriques n°2**Exercice 1 :**

$$(I1) : S =]-\infty; -\frac{2}{3}] \quad (I2) : S =]-12; +\infty[\quad (I3) : S = \left[\frac{1}{2}; +\infty[\quad (I4) : S =]-\infty; -\frac{10}{9}[$$

$$(I5) : S = \left[-\frac{4}{3}; +\infty[$$

Facultatif :

$$(I6) : S =]-\infty; -\frac{16}{21}] \quad (I7) : S = \left[\frac{12}{7}; +\infty[\quad (I8) : S =]-\infty; \frac{11}{15}] \quad (I9) : S = \left[\frac{10}{21}; +\infty[$$

$$(I10) : S = \left[-\frac{1}{5}; +\infty[$$

Exercice 2 :

$$(S1) : S = \left\{ \left(\frac{2}{9}; \frac{1}{3} \right) \right\} \quad (S2) : S = \left\{ \left(\frac{10}{13}; -\frac{21}{13} \right) \right\} \quad (S3) : S = \left\{ \left(\frac{9}{13}; -\frac{1}{13} \right) \right\}$$

Facultatif :

$$(S4) : S = \left\{ \left(\frac{19}{35}; \frac{43}{105} \right) \right\} \quad (S5) : S = \emptyset$$

Corrections Fonctions :**Exercice 1 :**

1) Images :	$f(2) = -6$	$f\left(-\frac{3}{2}\right) = \frac{9}{2}$	$f(-5) = 15$	$f\left(\frac{7}{5}\right) = -\frac{21}{5}$
	$g(2) = -\frac{2}{3}$	$g\left(-\frac{3}{2}\right) = \frac{1}{2}$	$g(-5) = \frac{5}{3}$	$g\left(\frac{7}{5}\right) = -\frac{7}{15}$
	$l(2) = \frac{15}{4}$	$l\left(-\frac{3}{2}\right) = -\frac{13}{4}$	$l(-5) = \frac{-41}{4}$	$l\left(\frac{7}{5}\right) = \frac{51}{20}$
	$m(2) = \frac{8}{3}$	$m\left(-\frac{3}{2}\right) = 5$	$m(-5) = \frac{22}{3}$	$m\left(\frac{7}{5}\right) = \frac{46}{15}$

2) Antécédents :	Pour f : $x = -1$	$x = \frac{2}{3}$	$x = -\frac{1}{4}$	$x = \frac{1}{6}$
	Pour g : $x = -9$	$x = 6$	$x = -\frac{9}{4}$	$x = \frac{3}{2}$
	Pour l : $x = \frac{13}{8}$	$x = -\frac{7}{8}$	$x = \frac{1}{2}$	$x = -\frac{1}{8}$
	Pour m : $x = \frac{3}{2}$	$x = 9$	$x = \frac{39}{8}$	$x = \frac{27}{4}$

Exercice 2 :

$$f(x) = -\frac{4}{5}x - \frac{13}{5} \quad g(x) = 5x - 8 \quad h(x) = -x + 4 \quad k(x) = -\frac{3}{2}x + \frac{5}{2} \quad s(x) = 4x - 1$$

Exercice 3 :

Graphique 1 : fonction croissante $f(1) = 4$ $f(-1) = 0$ $f(0) = 2$

Graphique 2 : fonction décroissante $-3 = f(1)$ $1 = f(-3)$ $2 = f(-4)$

Graphique 3 : fonction croissante $-4 = f(-2)$ $-2 = f(0)$ $1 = f(3)$

Graphique 4 : fonction croissante $f(-4) = 0$ $f(0) = 1$ $f(4) = 2$

Graphique 5 : fonction croissante $f(-2) = -3$ $f(-1) = -1$ $f(1) = 3$

Graphique 6 : fonction constante. -3 a une infinité d'antécédents ; 0 et 2 n'ont pas d'antécédent

Graphique 7 : fonction croissante $-4 = f(-2)$ $2 = f(1)$ $4 = f(2)$

Graphique 8 : fonction décroissante $f(-2) = 2$ $f(0) = 0$ $f(4) = -4$