Correction DS8

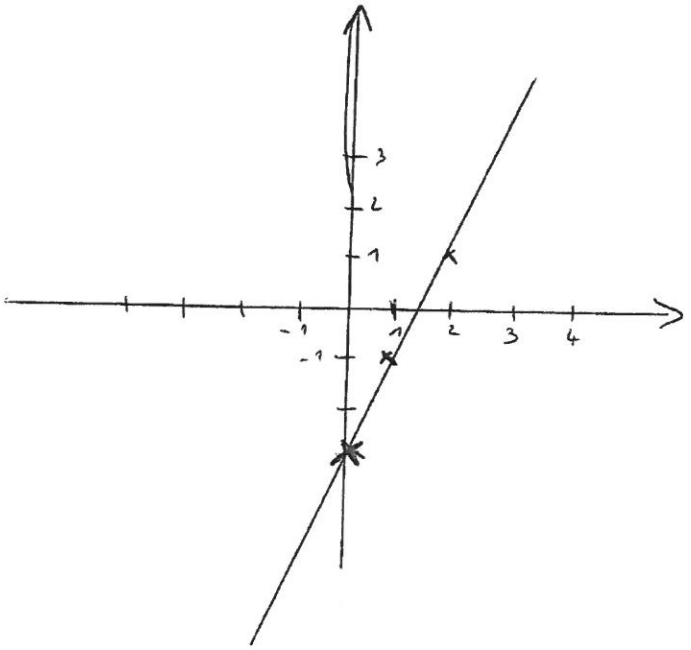
Exercice 1

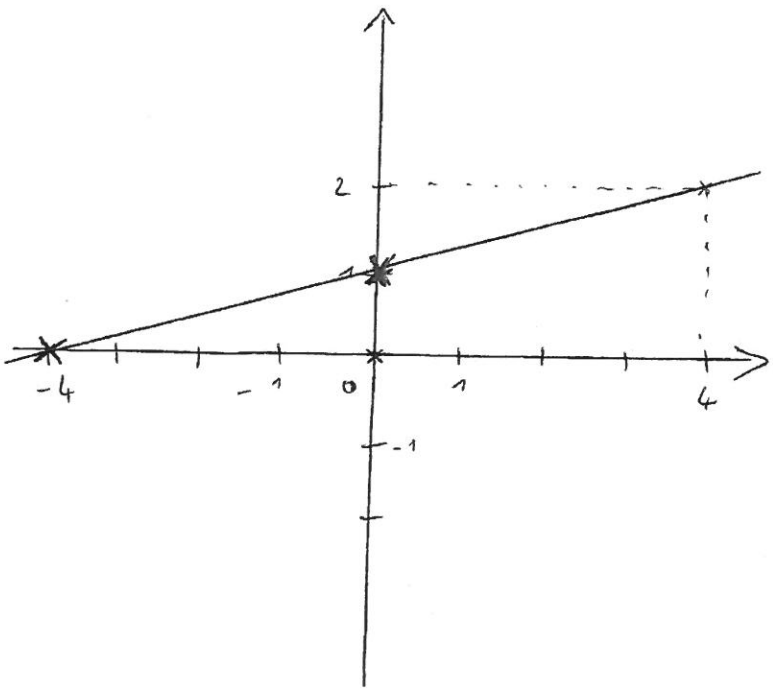
$f(x) = 3x + 6$

$g(x) = -x + 2$

$h(x) = \frac{1}{2}x - 1$

Exercice 2





Exercice 3.

1) $f(x) = 5x$

$f(x) = -\frac{2}{3}x$

2) $f(x) = 10 - 5x$

$f(x) = \frac{9}{5}x - 2.$

3) $g(x) = 2x - 5$

a) $g(-3) = 2 \times (-3) - 5$

$= -6 - 5$

$= -11.$

b) $g(x) = 15$

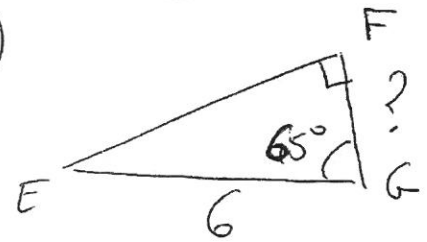
$2x - 5 = 15$

$+5 \quad 2x = 20 \quad +5$

$\div 2 \quad x = 10 \quad \div 2$

Exercice 4.

1)



- On cherche le coté adjacent et connait l'hypoténuse, on va utiliser le cosinus.

$\cos(\widehat{EGF}) = \frac{adj}{hyp}$

$\cos(65°) = \frac{FG}{6}$

$FG = \frac{6 \times \cos(65°)}{1} = \simeq 2{,}54$

2) $HG = \sqrt{20} \simeq 4{,}47$ (avec Pythagore).

Exercice 5

a) $\{2 ; 4 ; 6 ; 8 ; 10 ; 12\}$.

b) Les multiples de 6 sont 4 ; 8 ; 12.

Donc $P(B) = \frac{3}{12} = \frac{1}{4}$.

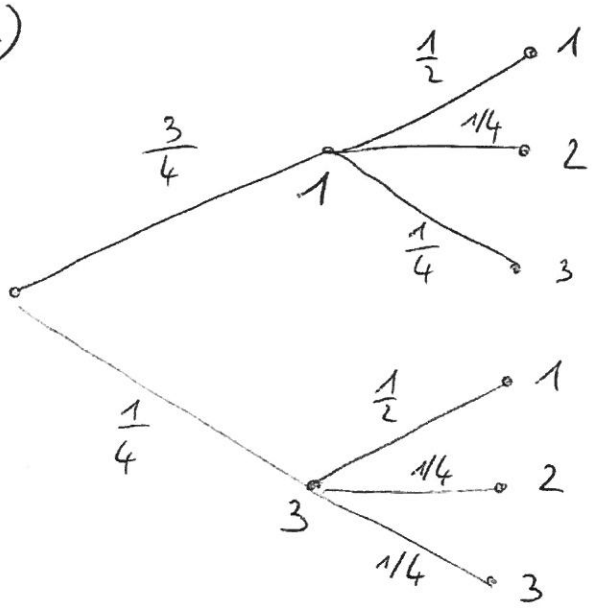
c) Les multiples de 3 sont : $\{3, 6, 9, 12\}$

Il y a donc $12 - 4 = 8$ non multiples de 3.

$P(C) = \frac{8}{12} = \frac{2}{3}$.

Exercice 6

a)



b) $\frac{3}{4} \times \frac{1}{2} = \frac{3}{8}$.

c) $\frac{3}{4} \times \frac{1}{4} + \frac{1}{4} \times \frac{1}{2}$

$= \frac{3}{16} + \frac{1}{8}$

$= \frac{5}{16}$.

Exercice 7

$x^2 + 6x + 9 = (x+3)^2$

$2x^2 - 7x = x(2x-7)$

$25x^2 - 40x + 16 = (5x-4)^2$

$100x^2 - 64 = (10x - 8)(10x + 8)$

Exercice 8

- $4x - 10 = 0$

  $4x = 10$

  $x = 2{,}5$

- $2x - 6 = 5x + 4$

  $-3x - 6 = 4$

  $-3x = 10$.

  $x = -\frac{10}{3}$.

- $(x+4)(6-x) = 0$

  règle produit nul.

  $x + 4 = 0$ ou $6 - x = 0$

  $x = -4$ ou $x = 6$

- $(3x-4)^2 - 81 = 0$

  $(3x-4)^2 - 9^2 = 0$

  $(3x - 4 - 9)(3x - 4 + 9) = 0$

  $(3x - 13)(3x + 5) = 0$

  Règle produit nul.

  $3x - 13 = 0$ ou $3x + 5 = 0$

  $x = \frac{13}{3}$ ou $x = -\frac{5}{3}$