

Exercices:

②6:

a) $A(x) = 19$ b) $c) \sim 100 \text{ e}$ d) $A(209) = 19 \text{ €}$

$C(x) = 8 + 0,05x$

$C(209) = 8 + 209 \cdot 0,05 = \underline{18,45 \text{ €}}$

$B(x) = 0,18x$

$B(209) = 0,18 \cdot 209 = 37,62 \text{ €}$

⑦6: $F(x) = ax + b \rightarrow F(50) = 95 \quad a = \frac{y_2 - y_1}{x_2 - x_1} = \frac{3}{10}$
 $F(60) = 98$

• Méthode: ① Trouver coeff directeur
avec $\frac{y_B - y_A}{x_B - x_A} = a$

② Trouver ordonnée à l'origine

$F(x) = ax + b = \text{valeur}$

ÉQUATION

$F(50) = \frac{3}{10}x + b = 95 \Rightarrow \text{EQUA}^\circ: \frac{3 \cdot 50}{10} + b = 95$

$\Leftrightarrow b = 95 - \frac{150}{10} = 80$

$F(x) = \frac{3}{10}x + 80 \Rightarrow F(0) = 80$

Cours:

• Factorisa^o: $\underline{ax + b} + \underline{4ax + 4b} = \underline{(1+4)(ax+b)} = 5(ax+b)$

• Identités remarquables: $(a+b)^2 = a^2 + 2ab + b^2$
 $= (a+b)(a+b) = a^2 + ab + ba + b^2 = a^2 + 2ab + b^2$
• $(a-b)^2 = a^2 - 2ab + b^2$

• $a^2 - b^2 = (a+b)(a-b)$

Parentèses:

$+(x) = x$

$-(x) = -x \quad ; \quad -(x-y) = -x+y$

$a \cdot (x+y) = ax + ay$

$(x+y)^n = \underbrace{(x+y)(x+y) \dots (x+y)}_{n \text{ fois}} \quad ; \quad (x+y)^4 = (x+y)^3(x+y) = (x+y)^2(x+y)^2 = \underbrace{(x+y) \dots (x+y)}_{4 \text{ fois}}$

• $(-x)^2 = x^2$

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

Trigonometrie:

CAH SOH TOA

① On sait que: - ABC est rectangle en B

$- BC = 10 \text{ cm} \quad \hat{C} = 45^\circ$

Or: $\cos(C) = \frac{BC}{CA}$

Donc: $\frac{\cos(C)}{BC} = \frac{1}{CA} \Rightarrow CA = \frac{BC}{\cos(C)}$

② On sait que: - ABC est rectangle en B

$$- BC = 10 \quad CA = 15$$

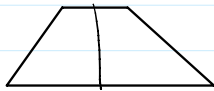
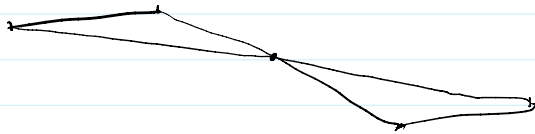
$$\text{Or: } \cos(C) = \frac{BC}{CA} = \frac{2}{3}$$

$$\Leftrightarrow \arccos(\cos(C)) = \arccos\left(\frac{2}{3}\right) \rightarrow \text{impaire } \hat{=} \quad x^2 = \frac{2}{3}$$

$$\Leftrightarrow C = 48^\circ$$

$$\begin{aligned} \sqrt{x^2} &= \sqrt{\frac{2}{3}} \\ x &= \sqrt{\frac{2}{3}} \end{aligned}$$

• Symétrie:



• Quint:

$$\begin{aligned} & (2x+1)^2 + (2x+1)(x+3) + 1 - 4x^2 \\ &= (2x+1) \left[(2x+1) + (x+3) \right] + 1 - 4x^2 \\ &= (2x+1)(3x+4) + (1-2x)(1+2x) \\ &= (2x+1) \left[(3x+4) + (1-2x) \right] \\ &= (2x+1)(x+5) \end{aligned}$$

$$\begin{aligned} & 4x^2 + 12x + 9 - (x-5)^2 \\ &= (2x+3)^2 - (x-5)^2 - a^2 - b^2 = (a-b)(a+b) \\ &= (3x-2)(x+8) \end{aligned}$$