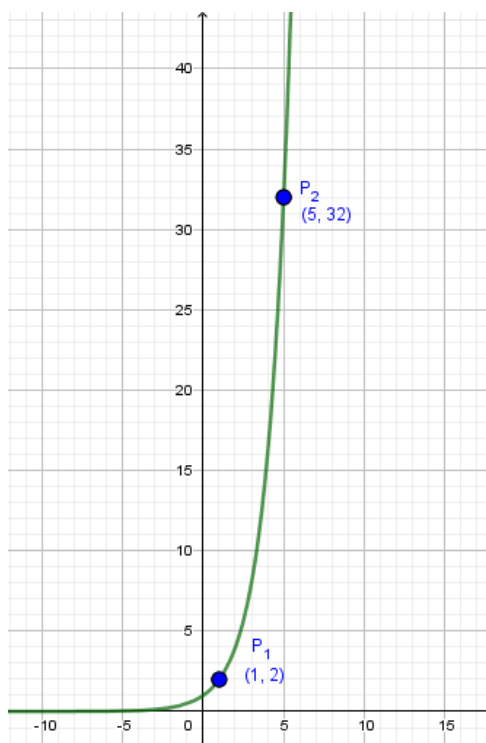


La fonction exponentielle

Trouvez la règle de la fonction à l'aide de deux points.

A



Calculs :

$$f(x) = ac^x \quad P_1 = (1; 2) \quad P_2 = (5; 32)$$

On substitue

$$2 = ac^1$$

$$\frac{2}{c^1} = a$$

On compare

$$32 = ac^5$$

$$\frac{32}{c^5} = a$$

$$\frac{2}{c^1} = \frac{32}{c^5}$$

$$\frac{c^5}{c^1} = \frac{32}{2}$$

$$c^4 = 16$$

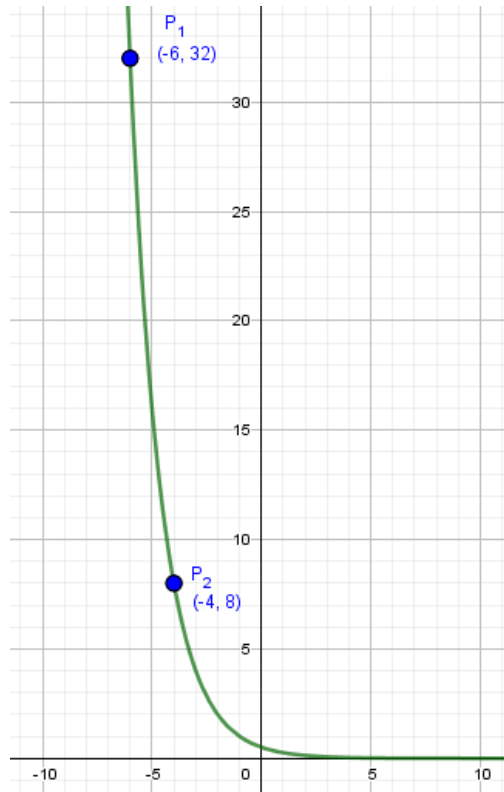
$$c = 2$$

On remplace "c"

$$\frac{2}{(2)^1} = a$$

$$1 = a$$

$$f(x) = 1(2)^x$$

B

Calculs :

$$f(x) = ac^x \quad P_1 = (-6; 32) \quad P_2 = (-4; 8)$$

On substitue

$$32 = ac^{-6}$$

$$\frac{32}{c^{-6}} = a$$

$$8 = ac^{-4}$$

$$\frac{8}{c^{-4}} = a$$

On compare

$$\frac{32}{c^{-6}} = \frac{8}{c^{-4}}$$

$$\frac{c^{-4}}{c^{-6}} = \frac{8}{32}$$

$$c^2 = 0.25$$

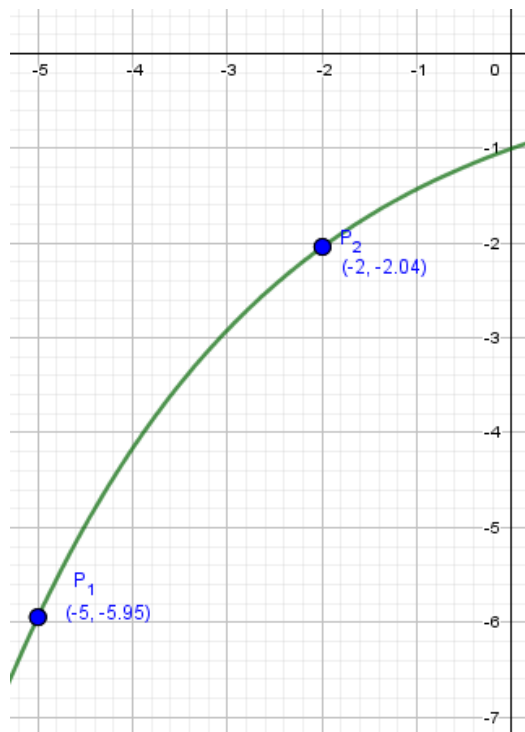
$$c = 0.5$$

On remplace "c"

$$\frac{32}{(0.5)^{-6}} = a$$

$$0.5 = a$$

$$f(x) = 0.5(0.5)^x$$

C

Calculs :

$$f(x) = ac^x \quad P_1 = (-5; -5.95) \quad P_2 = (-2; -2.04)$$

On substitue

$$-5.95 = ac^{-5}$$

$$\frac{-5.95}{c^{-5}} = a$$

$$-2.04 = ac^{-2}$$

$$\frac{-2.04}{c^{-2}} = a$$

On compare

$$\frac{-5.95}{c^{-5}} = \frac{-2.04}{c^{-2}}$$

$$\frac{c^{-2}}{c^{-5}} = \frac{-2.04}{-5.95}$$

$$c^3 = 0.3429$$

$$c = 0.7$$

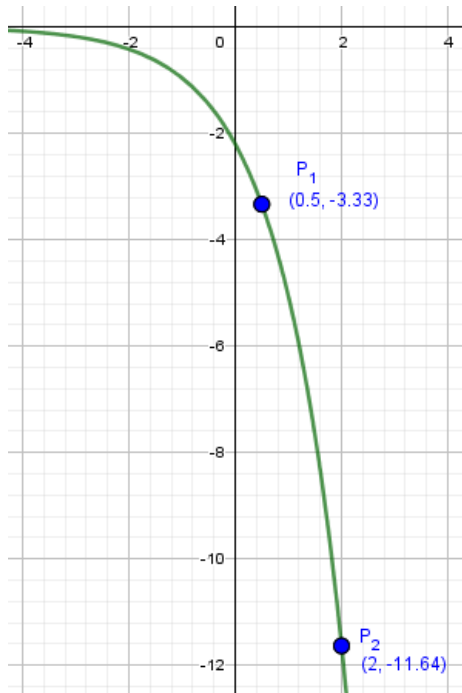
On remplace "c"

$$\frac{-5.95}{(0.7)^{-5}} = a$$

$$-1 = a$$

$$f(x) = -1(0.7)^x$$

D



Calculs :

$$f(x) = ac^x \quad P_1 = (0.5; -3.33) \quad P_2 = (2; -11.64)$$

On substitue

$$\begin{aligned} -3.33 &= ac^{0.5} & -11.64 &= ac^2 \\ \frac{-3.33}{c^{0.5}} &= a & \frac{-11.64}{c^2} &= a \end{aligned}$$

On compare

$$\frac{-3.33}{c^{0.5}} = \frac{-11.64}{c^2}$$

$$\frac{c^2}{c^{0.5}} = \frac{-11.64}{-3.33}$$

$$c^{1.5} = 3.4955$$

$$c = 2.3$$

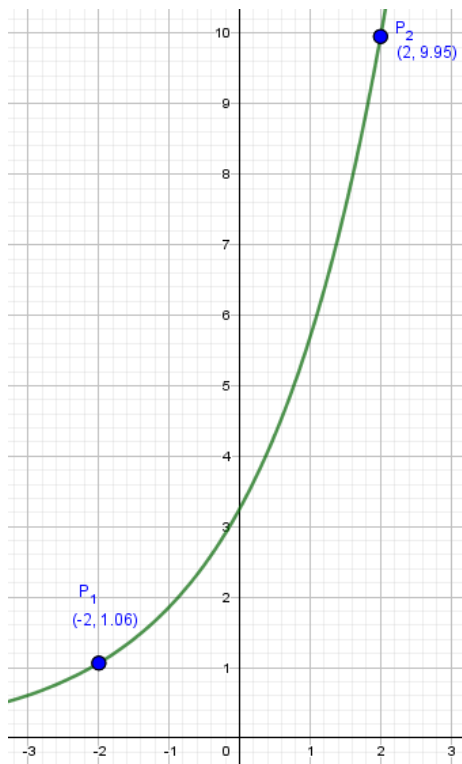
On remplace "c"

$$\frac{-3.33}{(2.3)^{0.5}} = a$$

$$-2.2 = a$$

$$f(x) = -2.2(2.3)^x$$

E



Calculs :

$$f(x) = ac^x \quad P_1 = (-2; 1.06) \quad P_2 = (2; 9.95)$$

On substitue

$$\begin{aligned} 1.06 &= ac^{-2} & 9.95 &= ac^2 \\ \frac{1.06}{c^{-2}} &= a & \frac{9.95}{c^2} &= a \end{aligned}$$

On compare

$$\frac{1.06}{c^{-2}} = \frac{9.95}{c^2}$$

$$\frac{c^2}{c^{-2}} = \frac{9.95}{1.06}$$

$$c^4 = 9.3868$$

$$c = 1.75$$

On remplace "c"

$$\frac{1.06}{(1.75)^{-2}} = a$$

$$3.25 = a$$

$$f(x) = 3.25(1.75)^x$$

F



Calculs :

$$f(x) = ac^x \quad P_1 = (-1; 0.45) \\ P_2 = (7; 0.97)$$

On substitue

$$0.45 = ac^{-1} \quad 0.97 = ac^7 \\ \frac{0.45}{c^{-1}} = a \quad \frac{0.97}{c^7} = a$$

On compare

$$\frac{0.45}{c^{-1}} = \frac{0.97}{c^7}$$

$$\frac{c^7}{c^{-1}} = \frac{0.97}{0.45}$$

$$c^8 = 2.1556$$

$$c = 1.1$$

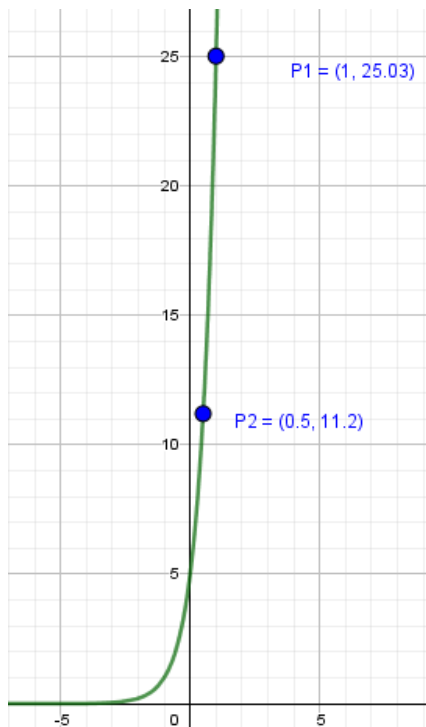
On remplace "c"

$$\frac{0.45}{(1.1)^{-1}} = a$$

$$0.5 = a$$

$$f(x) = 0.5(1.1)^x$$

G



Calculs :

$$f(x) = ac^x \quad P_1 = (1; 25.03) \quad P_2 = (0.5; 11.2)$$

On substitue

$$25.03 = ac^1 \quad 11.2 = ac^{0.5} \\ \frac{25.03}{c^1} = a \quad \frac{11.2}{c^{0.5}} = a$$

On compare

$$\frac{25.03}{c^1} = \frac{11.2}{c^{0.5}}$$

$$\frac{c^{0.5}}{c^1} = \frac{11.2}{25.03}$$

$$c^{-0.5} = 0.4475$$

$$c = 5$$

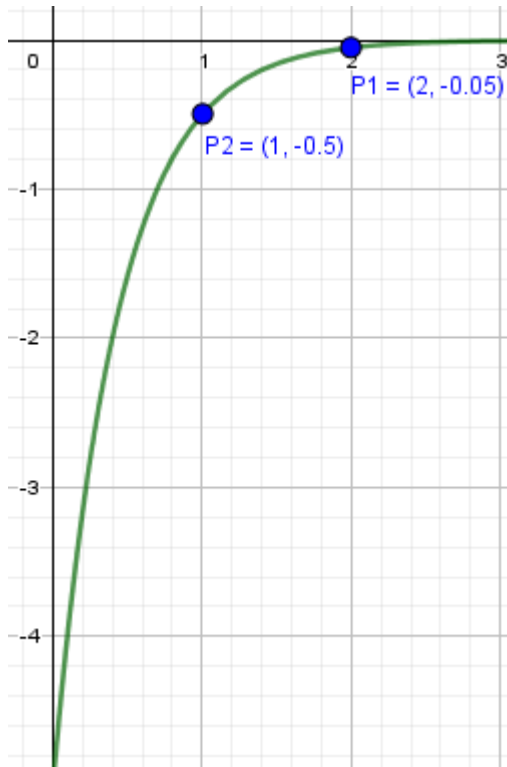
On remplace "c"

$$\frac{25.03}{(5)^1} = a$$

$$5 = a$$

$$f(x) = 5(5)^x$$

H



Calculs :

$$f(x) = ac^x \quad P_1 = (2; -0.05) \quad P_2 = (1; -0.5)$$

On substitue

$$\begin{aligned} -0.05 &= ac^2 & -0.5 &= ac^2 \\ \frac{-0.05}{c^2} &= a & \frac{-0.5}{c^1} &= a \end{aligned}$$

On compare

$$\frac{-0.05}{c^2} = \frac{-0.5}{c^1}$$

$$\frac{c^1}{c^2} = \frac{-0.5}{-0.05}$$

$$c^{-1} = 10$$

$$c = 0.1$$

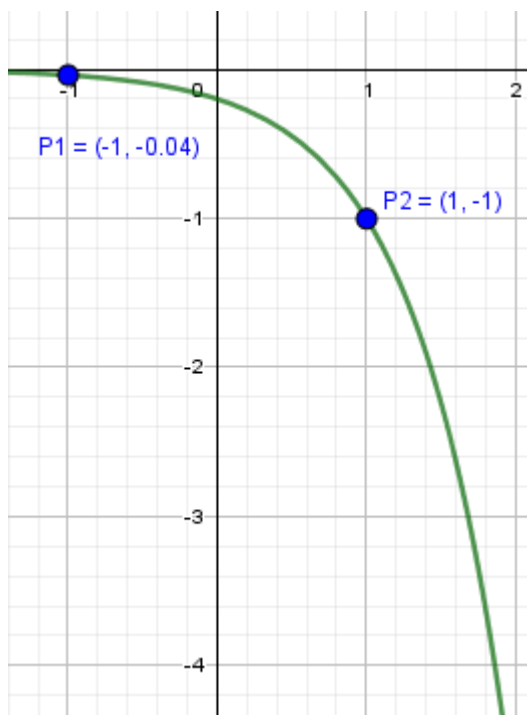
On remplace "c"

$$\frac{-0.05}{(0.1)^2} = a$$

$$-5 = a$$

$$f(x) = -5(0.1)^x$$

I



Calculs :

$$f(x) = ac^x \quad P_1 = (-1; -0.04) \quad P_2 = (1; -1)$$

On substitue

$$\begin{aligned} -0.04 &= ac^{-1} & -1 &= ac^1 \\ \frac{-0.04}{c^{-1}} &= a & \frac{-1}{c^1} &= a \end{aligned}$$

On compare

$$\frac{-0.04}{c^{-1}} = \frac{-1}{c^1}$$

$$\frac{c^1}{c^{-1}} = \frac{-1}{-0.04}$$

$$c^2 = 25$$

$$c = 5$$

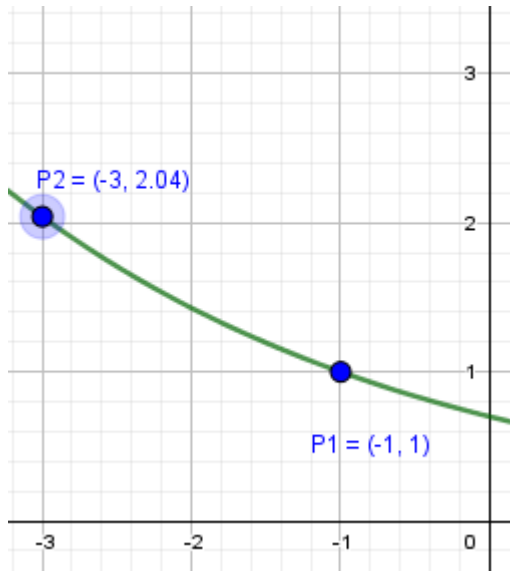
On remplace "c"

$$\frac{-0.04}{(5)^{-1}} = a$$

$$-0.2 = a$$

$$f(x) = -0.2(5)^x$$

J



Calculs :

$$f(x) = ac^x \quad P_1 = (-1; 1) \quad P_2 = (-3; 2.04)$$

On substitue

$$1 = ac^{-1}$$

$$\frac{1}{c^{-1}} = a$$

$$2.04 = ac^{-3}$$

$$\frac{2.04}{c^{-3}} = a$$

On compare

$$\frac{1}{c^{-1}} = \frac{2.04}{c^{-3}}$$

$$\frac{c^{-3}}{c^{-1}} = \frac{2.04}{1}$$

$$c^{-2} = 2.04$$

$$c = 0.7$$

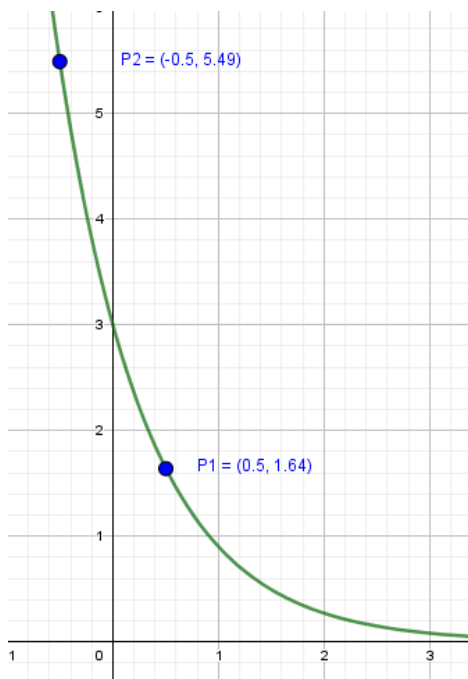
On remplace "c"

$$\frac{1}{(0.7)^{-1}} = a$$

$$0.7 = a$$

$$f(x) = 0.7(0.7)^x$$

K



Calculs :

$$f(x) = ac^x \quad P_1 = (0.5; 1.64) \quad P_2 = (-0.5; 5.49)$$

On substitue

$$1.64 = ac^{0.5}$$

$$\frac{1.64}{c^{0.5}} = a$$

$$5.49 = ac^{-0.5}$$

$$\frac{5.49}{c^{-0.5}} = a$$

On compare

$$\frac{1.64}{c^{0.5}} = \frac{5.49}{c^{-0.5}}$$

$$\frac{c^{-0.5}}{c^{0.5}} = \frac{5.49}{1.64}$$

$$c^{-1} = 3.35$$

$$c = 0.3$$

On remplace "c"

$$\frac{1.64}{(0.3)^{0.5}} = a$$

$$3 = a$$

$$f(x) = 3(0.3)^x$$