

Tugas pertemuan 1 kalkulus

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Soal

1) Gambarkan grafik garis:

- a. $Y = -2X + 8$
- b. $Y = -X^2 + 5X - 6$
- c. $X = Y^2 + Y - 2$

2) Carilah titik potong antara kedua garis berikut:

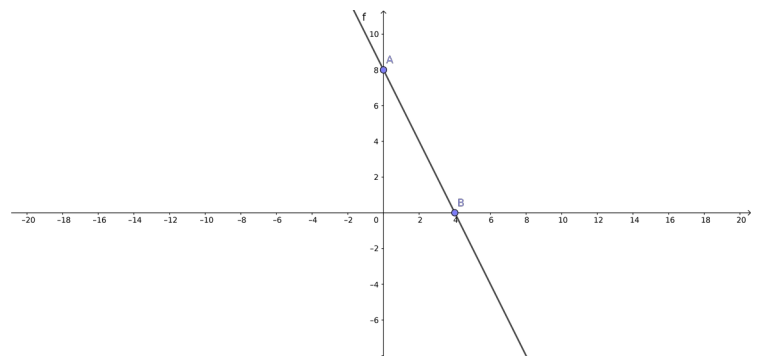
- a. $Y = 4X - 12$ dan $Y = -3X + 1$
- b. $Y = X^2 + 7X + 12$ dan $X = Y - 1$
- c. $Y = X^2 + 9X + 20$ dan $Y = -X^2 + X - 12$

Jawaban

a. $Y = -2X + 8$

$$\begin{aligned} X = 0 \quad Y &= -2(0) + 8 \\ &= -2(0) + 8 \\ &= 0 + 8 \\ Y &= 8 \quad \quad \quad \mathbf{A = (0,8)} \end{aligned}$$

$$\begin{aligned} Y = 0 \quad 0 &= -2x + 8 \\ -8 &= 2x \\ 2x &= -8 \\ x &= -4 \quad \quad \quad \mathbf{B = (-4,0)} \end{aligned}$$



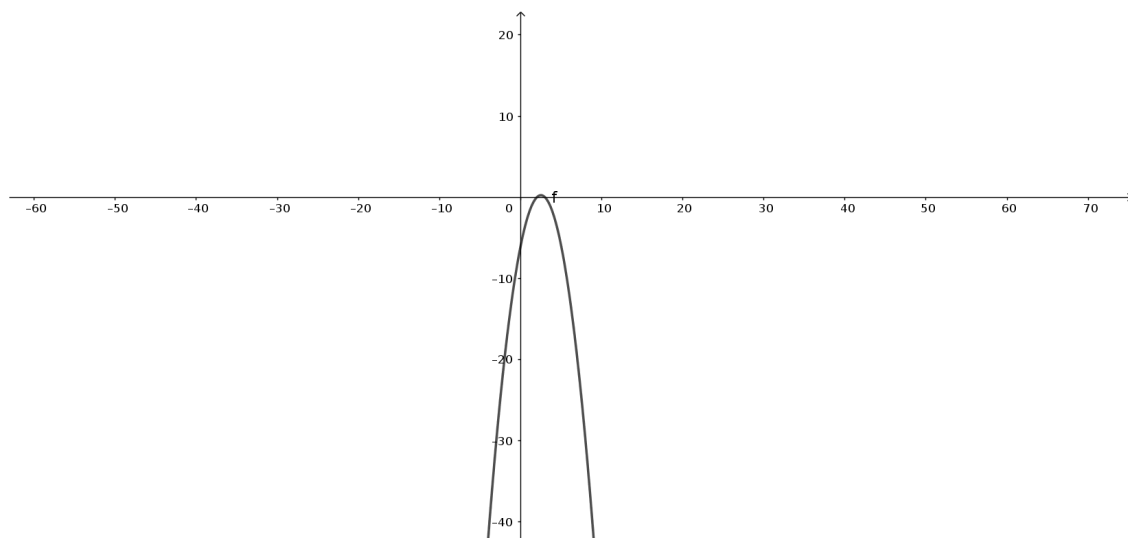
b. $Y = -X^2 + 5X - 6$

$$x = \frac{-\sqrt{1-4y+5}}{2}$$

$$x = \frac{\sqrt{1-4y+5}}{2}$$

Cari $y = -(x-3)(x-2)$ Nilai $y(2-x)(x-3)$ X
 Cari Nilai Y
 Tetapkan Y

Grafik



c. $X=Y^2+Y-2$

$$y = \frac{\sqrt{4x+9}-1}{2}$$

$$y = \frac{-\sqrt{4x+9}-1}{2}$$

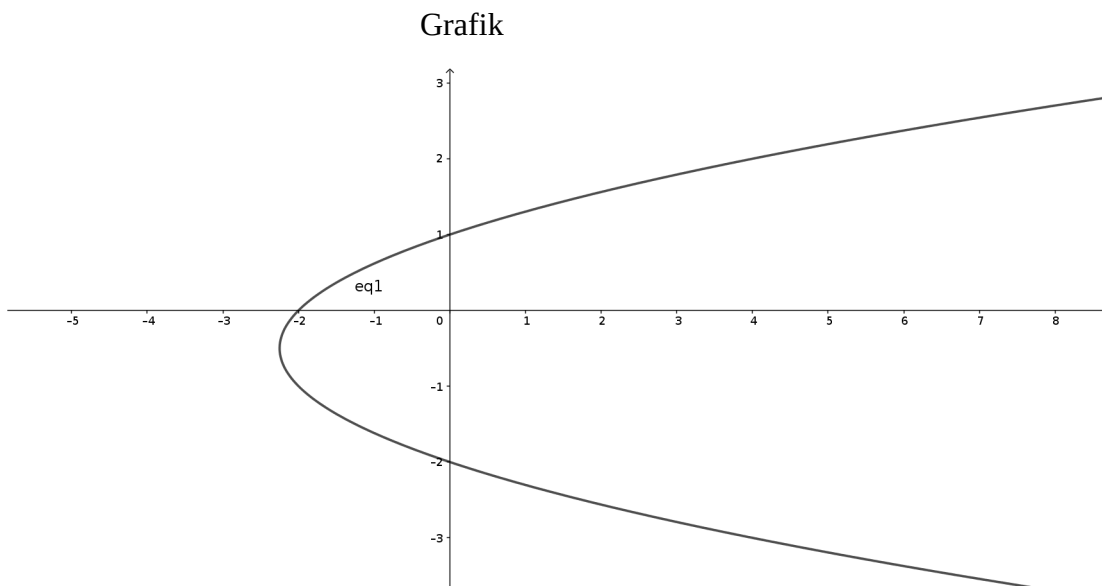
$$x = (y-1)(y+2)$$

Cari Nilai Y

$$x = (y-1)(y+2)$$

Cari Nilai X

Tetapkan X



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$$\begin{aligned}
 & y^1 = y^2 \\
 & 4x - 12 = 3x + 1 \\
 \text{a. } & 4x - 3x = 1 + 12 \quad \mathbf{Y = 4X - 12 \text{ dan } Y = -3X + 1} \\
 & 1x = 13 \\
 & x = 13
 \end{aligned}$$

$$\begin{aligned}
 & y = 4(3) - 12 \quad \text{Substitusikan } x = 3 \text{ ke } y = 4x - 12 \\
 & y = 12 - 12 \\
 & y = 0
 \end{aligned}$$

Titik potong $(x, y) = (3, 0)$

$$\begin{aligned}
 & x^2 + 7x + 12 = 0 \\
 & (x + 4)(x + 3) = 0 \\
 & x = 4 \text{ atau } x = 3 \\
 & \text{titik potong } (4, 0) \text{ dan } (3, 0)
 \end{aligned}$$

$$\mathbf{b. Y = X^2 + 7X + 12 \text{ dan } X = Y - 1}$$

Titik potong dengan sumbu $x, y = 0$

