1. Diket $= f(v)\begin{cases} v-2, & v<0 \\ 1+v, & 0 \leq v<2 \\ v^2+v-3, & v \geq 2 \end{cases}$

2. $\lim_{v \to 0} F(v)$

kiri $\lim_{v \to 0^-} f(v) = 0-2 = -2$

kanan $\lim_{v \to 0^+} F(v) = 1+0 = 1$

karena $\lim_{v \to 0^-} F(v) \neq \lim_{v \to 0^+} F(v)$, maka $\lim_{v \to 0} F(v)$ tidak ada

b. $f(2)$

$F(2) = 2^2+2-3 = 4+2-3 = 3$

c. kiri $\lim_{v \to 2^-} F(v) = 1+2 \neq 3$

kanan $\lim_{v \to 2^+} F(v) = 2^2+2-3 = 3$

$= \lim_{v \to 2} F(v) = 3$

dai

2. carilah nilai a dan b sehingga fungsi kontinu disetiap titik $x \in R$

$$f(x) = \begin{cases} x+2, & \text{jika } x < 2 \\ 2x-b, & \text{jika } 2 \leq x < 3 \\ 3x, & \text{jika } x \geq 3 \end{cases}$$

$x+2$, jika $x < 2$

$\lim_{x \to 2^-} f(x) = 2+2 = 4$

$\lim_{x \to 2^+} f(x) = 2a - b$

$\lim_{x \to 2^-} f(x) = \lim_{x \to 2^+} f(x)$

$4 = 2a - b$ [persamaan 1]

kiri $\lim_{x \to 3^-} f(x) = 2a - b$

$\lim_{x \to 3^+} f(x) = 3(3) = 9$

$\lim_{x \to 3^-} f(x) = \lim_{x \to 3^+} f(x)$

$3a - b = 9$ [persamaan 2]

daiichi

Substitusi

$b = 2a - 4$

$3a - (2a - 4) = 9$

$3a - 2a + 4 = 9$

$a = 5$

Sub $a = 5$ ke $b = 2a - 4$

$b = 2(5) - 4 = 10 - 4 = 6$

$a = 5, \quad b = 6$