

Nama :

Kelas :

Integral Tak Tentu Fungsi Aljabar

Cocokan materi dibawah ini

$$f(x) \rightarrow f'(x) \quad \bullet$$

$$f'(x) \rightarrow f(x) \quad \bullet$$

$$\int f'(x) dx = F(x) + c \quad \bullet$$

$$\int dx = x + c \quad \bullet$$

$$\int a x^n dx = \frac{a}{n+1} x^{n+1} + c \quad \bullet$$

$$\begin{aligned} \int (3x^2 - 2x^{-2}) dx \\ \frac{3}{3} x^3 - \frac{2}{-1} x^{-1} + c \\ x^3 + \frac{2}{x} + c \end{aligned} \quad \bullet$$

$$\int (f(x) \pm g(x) dx) = \int f(x) dx \pm \int g(x) dx \quad \bullet$$

$$\int (ax + b)^n dx = \frac{1}{a(n+1)} (ax + b)^{n+1} + c \quad \bullet$$

Mengubah bentuk $f'(x)$ atau turunan pertama menjadi integral $\bullet$

Mencari $f(x)$

Mencari nilai c (konstanta integrasi)

$$\int \frac{a}{x} dx = a \ln |x| + c \quad \bullet$$

$$\int \frac{k}{(ax+b)} dx = \frac{k}{a} \ln |ax + b| + c \quad \bullet$$

Diketahui $f'(x) = 5x - 3$ dan $f(2) = 18$, tentukan fungsi $f(x)$ $\bullet$

• Notasi Integral Tak Tentu Fungsi Aljabar

$$\bullet \int (3x^2 - \frac{2}{x^2}) dx$$

$$\begin{aligned} f'(x) &= 5x - 3 \\ f(x) &\rightarrow \int f'(x) dx \\ \int (5x - 3) dx &= \frac{5}{2} x^2 - 3x + c \end{aligned}$$

$$\begin{aligned} f(2) &= 18 \\ \frac{5}{2} (2)^2 - 3 \cdot 2 + c &= 18 \end{aligned} \quad \bullet$$

$$\frac{5}{2} \cdot 4 - 6 + c = 18$$

$$4 + c = 18$$

$$c = 14$$

$$\text{Jadi, } f(x) = \frac{5}{2} x^2 - 3x + 14$$

• Turunan

• Menentukan Nilai C

• Integral

• Sifat-sifat Integral Tak Tentu Fungsi Aljabar