Misal (2x - 4) = u ÄÄL = 2 atau du = 2 dx, sehingga

i (2x - 4) dx = 1/2 i (2x -4) 2dx = 1/2 i u du

= 1/12 (2x -4) + C

h. i (x + 2) (3 x) dx = ?

Misal (x + 2) = u ÄÄL = (3 x) atau du = (3 x) dx,

sehingga

i (x + 2) (3 x) dx = i u du = 1/3 u + C

= 1/3 ((x + 2) + C

i. i 3x dx = ?

Misal 1 - 2 x = u, sehingga du = (- 4x) dx , maka

i 3x dx = i (- 3/4)(-4x) dx atau

-3/4 i (-4x) dx = -3/4 i u du

= -3/4 (2/3) u + C atau

= - (1/2) (1 - 2x) + C

j. i = ?

i = i (1 -) dx = i 1 dx - i dx

= x + C' + + C" atau

= + 1 + C

---

2. i = ln ³u³ + C

Contoh :

a. i = ?

Misal x + 2 = u, sehingga du = d(x + 2), maka

i = i = ln ³x + 2³ + C

b. i = ?

Misal 2x + 3 = u, maka du = 2 dx, sehingga

i = i = 1/2 i = 1/2 i

= 1/2 ln ³u³ + C atau

= 1/2 ln ³(2x + 3)³ + C

c. i = ?

Misal x - 1 = u dan du = 2x dx, sehingga

i = i = 1/2 i = 1/2 ln ³u³ + C atau

= 1/2 ln ³x - 1³ + C

d. i = ?

Misal 1 - 2 x = u dan du = (- 6 x) dx, sehingga

i = i = -1/6 i atau

= -1/6 i = -1/6 ln ³u³ + C atau

= -1/6 ln ³1 - 2 x ³ + C

e. i = i (1 +) dx

= i 1 dx + i ( ) dx

= x + ln ³x + 1³ + C

---

3. i a du = + C, a > 0 dan a $ 1

Contoh :

a. i a dt = + C, a > 0 dan a $ 1

b. i a dx = ?

Misal 2x = u, maka du = 2 dx, sehingga

i a dx = 1/2 i a du = 1/2 ( ) + C atau

= 1/2 ( ) + C

c i a (4x+4) dx = ?

Misal x + 2x + 1 = u, maka du = (2x + 2) dx, sehingga

i a (4x+4) dx = 2 i a (2x+2) dx = 2 i a du

= 2 ( ) + C atau

= 2 ( ) + C

---

4. i e du = e + C

Contoh :

a. i e dt = e + C

b. i e x dx = ?

Misal x = u, maka du = 2 x dx, sehingga

i e x dx = 1/2 i e du = 1/2 e + C atau

= 1/2 e + C

c. i e (4x + 6) dx = ?

Misal x + 3x + 6 = u, maka du = (2x + 3) dx, sehingga

i e (4x + 6) dx = 2 i e (2x + 3) dx

= 2 i e du = 2 e + C atau

= 2 e + C

---

5. i = ln ³ ³ + C

Contoh :

a. i = ln ³ ³ + C

b. i = 1/2 i = ln ³ ³ + C

c. i = i = ln ³ ³ + C

---

6. i = ln ³ ³ + C

Contoh :

a. i = ln ³ ³ + C

b. i = 1/4 i = ln ³ ³ + C

c. i = i = ln ³ ³ + C

---

7. i = ln (u +) + C

Contoh :

a. i = ln (t +) + C

b. i = 1/2 i = 1/2 (ln (s +)+ C

c. i = 4 i

= 4 (ln (p + 1) +) + C

---

8. i = ln ³ u + ³ + C

Contoh :

a. i = ln ³ t + ³ + C

b. i = 1/2 i = 1/2 (ln (r +)+ C

c. i = 4 i

= 4 (ln (p + 1) +) + C

---

9. i sin u du = - cos u + C

Contoh :

a. i sin t dt = - cos t + C

b. i sin 3x dx = 1/3 i sin 3x 3 dx = - 1/3 cos 3x + C

c. i sin x (cos x dx) = i sin x d(sin x)

= 1/3 sin x + C

---

10. i cos u du = sin u + C

Contoh :

a. i cos t dt = sin t + C

b. i cos 1/3 x dx = i cos 1/3 x (3 . 1/3) dx

= 3 i cos 1/3 x (1/3 dx)

= 3 sin 1/3 x + C

c. i cos x (sin x dx) = - i cos d(sin x)

= - 1/3 cos x + C

---

11. i tg u du = ln ^{3}sec u^3 + C

Contoh :

a. i tg x dx = i dx = ?

Misal cos x = u, maka du = - sin x dx, sehingga

i dx = - i dx = - i = - ln $^3u^3$ + C atau

= - ln ^{3}cos x^3 + C atau

= ln ^{3}sec x^3 + C

b. i tg 5x dx = i dx = ?

Misal cos 5x = u, maka du = - sin 5x 5dx, sehingga

i dx = - 1/5 i 5 dx

= - 1/5 i = - 1/5 ln $^3u^3$ + C atau

= - 1/5 ln ^{3}cos $5x^3$ + C atau

= 1/5 ln ^{3}sec $5x^3$ + C

c. i tg (x + 6x + 9)(x + 3) dx

= i (x + 3) dx = ?

Misal cos (x + 6x + 9) = u, maka

du = - sin (x + 6x + 9)(2x + 6) dx, sehingga

i (x + 3) dx =

= - 1/2 i (2x + 6) dx

= - 1/2 i = - 1/2 ln ³u³ + C atau

= - 1/2 ln ³cos (x + 6x + 9)³ + C atau

= 1/2 ln ³sec (x + 6x + 9)³ + C

---

12. i cotg u du = ln ³sin u³ + C

Contoh :

a. i cotg x dx = i dx = ?

Misal sin x = u, maka du = cos x dx, sehingga

i dx = i = ln ³u³ + C atau

= ln ³sin x³ + C

b. i cotg 2x dx = i dx = ?

Misal sin 2x = u, maka du = cos 2x 2 dx, sehingga

i dx = 1/2 i 2 dx = 1/2 i

= 1/2 ln ³u³ + C atau

= 1/2 ln ³sin 2x³ + C

c. i cotg (x + 8x + 16)(x + 4) dx

= i (x + 4) dx = ?

Misal sin x + 8x + 16 = u, maka

du = cos (x + 8x + 16)(2x + 8) dx, sehingga

i (x + 4) dx

= 1/2 i (2x + 8) dx = 1/2 i

$= 1/2 \ln {}^{3}u^{3} + C$ atau

$= 1/2 \ln {}^{3}\sin x + 8x + 16^{3} + C$
