

Tarea 2 Calcole Integ_{ral}

$$du=3(\cos(3x))dx$$

?

$$\int \sin^2 x \, dx = \frac{x}{2} - \frac{\sin(2x)}{4} + C$$

$$\frac{du}{dx} = 2x$$

$$31 \quad \int \frac{1}{1-e^x} dx$$

$$-du = c \cdot dx$$

$$\frac{-du}{e^x} = dx$$

$$du = 3dx$$

$$\frac{du}{dr} = dr$$

$$24 \quad te$$

$$24$$

$$u^2 x^4 = 3$$

$$\int u = 4x dx$$

$$\frac{du}{dx} = x dx$$

$$6 \qquad t \qquad \qquad \qquad \text{JE} \qquad =$$

$$\text{du} \quad 6t0t$$

$$\text{du} \qquad \text{dt}$$

$$\text{da} \quad 2 \text{ dx} \qquad \qquad \qquad \text{uz (u-b)' \quad dy= u \quad du}$$

$$\text{Ju:stu-6'do \quad v: Sudu}$$

$$\qquad \qquad \qquad \text{v:}$$

$$\text{—} \qquad \text{!} \qquad \text{!!}$$

$$\text{duy} \quad 2u-6)$$

$$t't1$$

$$\text{ut 't3t-b}$$

$$F(t+3t^{-16})\ddot{z}^{\frac{1}{2}+},$$

$$\frac{1}{\sec(sxt1)} \text{ dx} = (\text{os (Sxt 1) du} \qquad \text{os(u) d\ne Isentul+<)=sentultG}$$

$$S$$

$$\frac{2}{2t^4_{s10}}$$

$$11 \quad \text{Jamcgc' l z' t2)da} \quad \text{s'ta)du} = -\text{otutG)} \\ (\text{ot(zt2z)tG}$$

$$\text{du q2+)du}$$

$$12: [(7+1)*** \text{ da} \quad 5f\text{edu}$$

$$(2+)dz$$

$$13 \quad \text{Ssec} \quad (\text{ne} \quad +C$$

$$4 \quad f \cos (la \textbf{X} ; = \text{Srasudu} \quad = \text{senu tG} \quad 5\text{en(1nt)+4}$$

$$\sin 3x) \; +G$$

$$\text{u= Sin(3)} \\ \text{du 3(os(?)dx} \\ \text{d-}_{\text{to(3x)d}}$$

$$3$$

$$\text{dud}$$

$$\cos'x$$

$$\mathrm{d}u\, f_{2\mathrm{co}}(x)\,\mathrm{sen}y\mathrm{d}x$$

$$\mathrm{In}l_1t\mathrm{xt}G$$

$$t\quad 2\%$$

$$\mathrm{d}u$$

$$\mathrm{se}\,C'(x)$$

$$S$$

$$\mathrm{d}a$$

$$\mathrm{arc}\,\mathrm{sen}l_u)\mathrm{t}G$$

$$\mathrm{arc}\,\mathrm{se}l\mathrm{tan})\ddot{\mathrm{i}};\frac{1}{2}G$$

$$\mathrm{d}a\quad \mathrm{se}2(\quad)$$

$$22r\quad \mathrm{ton}\quad \ln\,X$$

$$\mathrm{tan}(u\mathrm{l}\,\mathrm{d}a\,=\,\mathrm{In}\,\,\mathrm{I}\mathrm{sec}\,\,\mathrm{l}\mathrm{a}\mathrm{l}\mathrm{l}+G$$

$$237\quad \mathrm{ex}\mathrm{se}\mathrm{e}\mathrm{l}\mathrm{e}\mathrm{t}\mathrm{s})\mathrm{d}x\quad =\quad \mathrm{J}\mathrm{se}\mathrm{t}\mathrm{l}\mathrm{u}\mathrm{l}\,\,\mathrm{d}a\quad \ln(\mathrm{ton}\,\,\mathrm{u}\mathrm{t}\mathrm{eu})\mathrm{t}\mathrm{e}$$

$$\int_C \sin(3x-2)\cos(2et3)dx \qquad \int \sin(u-\frac{1}{2}\cos la) du$$

$$u-3xt-\frac{1}{3}-2$$

$$\frac{du}{dx} = 2$$

$$25: \int \cos(x) \sin(x) dx = \frac{1}{2} \sin(2x) + C$$

$$\frac{du}{dt} = 2s(2)$$

$$\frac{du}{dt} = \cos(2t)$$

$$26 \int \sin(2y) \sin(1^*) dy$$

$$2^? : \int_{(r+2)+}^1 \frac{du}{\text{ascia}(u)} tC$$

$$\frac{dud}{dt}$$

$$t_{jcr} C C_{ios}: v_{lo})^*-y.9(o) + 60_{lo})+c_6=6:v-40$$

$$V_o)=6 \quad v(s):-4.81Jar \quad t_{6o}Sor \quad 4.9xtt \quad 60xtc$$

$$v'_{lo})=6o \quad v'_{lo})=-4.610)t+(=6o \quad , \quad v'(K) \quad -9.81rt6G$$

$$v'')z-9.9t$$

$$U'x)=o$$

$$v(6.1762)=-4.26.1161)+bo(6,1161)+6$$

$$-9.81xtboo$$

$$=215.95 \text{ metrus}$$

$$K6.1162$$

$$s(t)=-4,4t?+Vot \quad t_{se}$$

$$s'(o)=Vo$$

$$s(o)=So$$

$$S'Ut)J-9.8 \quad dt$$

$$s'Lt) \quad -9.8t \quad tG$$

$$Slo) \quad -9.8lo) +e \quad vo$$

$$s'e) \quad -9.8t + va$$

$$s(t)= \quad -9.8t \quad tVo)t$$

$$-.q44Vot+c$$

$$Slo) \quad -1.9(o)? \quad + vo_{lo})t \quad C=So$$

$$5(4)i-4.9t \quad tVott so$$

$$C=So$$

$$s\#este \quad elaionda$$

37

$$S(0) = 10 \text{ m}$$

$$S'(t) = -4.81 S dx = -4.81 x t c$$

$$S'(t) = -9.61 t + 10 \quad S(0) = 10 \quad S'(0) = -9.41 x t_{10}$$

$$s(x) = -9.61 \int x dx + 10 S_0 x = -1.4 x^2 + 10 x t c$$

$$s(0) = 4.90 \quad 4 \quad 10(0) + 1 : 2 \quad S(1/2) = 4.9 + 10 x t^2$$

$$S(1) = -1.4 C_{11} + j_0() + 2 = 7.1 \text{ m}$$

$$-9.81 s + 100 \\ -4.8 t - 10 \\ X = 1$$

$$S'(K) = -4.6 J dx \quad 1.6 x t e$$

$$S''(x) = -1.6$$

$$S'(0) = -1.6(0) + (F_0 \quad s t x) = -1.6 x$$

$$S'(10) = 0$$

$$s(x) = -0.8 x^2 + 10 x t c$$

$$S(20) = -0.8(20)^2 + 10 \quad S(20) = -320 + 10 \quad S(x) = -0.6 x^2 + 10 x$$

$$c = 320$$

$$S(0) = -0.8 x + 320 \\ 320 \text{ m}$$

$$S\{z(0) = -1.6(20) = -32$$

Cato desde
impacto a

$$s(o) \circ$$

$$s'(o) = 26t\% = 6.44\%$$

$$1-133m(x-X)$$

$$y-6.9N \quad 1.175z(x \neg)$$

$$fx) = 1.1?5txt \quad 6.q44$$

$$_{13}^{22.2-6.94} O =_{1,7 \ 52}$$

$$f(x) = 1.1752 \quad \text{ox } t \ 6.q1Jdr = 0.5676x \ t6.4Yxtc$$

$$f(o) = o \quad f(o) > 0,5876 \ (o) i \frac{1}{2} 6.q14o) +c \quad O$$

$$U, f(x) \quad o. \ 58 \ \%x* t6.q14x$$

$$f113) = o.5876(0) + 6.q103) = 189.5764 \quad m$$