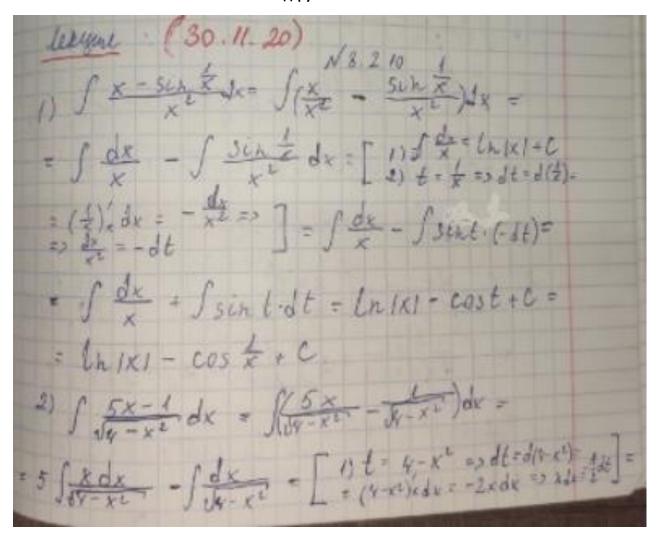
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Подгруппа №1



= 5 5 - fdt - 5 dx = - 5 5 dt - 5 dx = = - 5 - 2 - 5 - arcsin & + C = - 5 J4-x2 - arcsin + C N 2 2.15. 1) \ \ \(\frac{1 - x^2}{x^2} \] dx = \[\frac{x = \psi(t)}{x} \], \(x = \sin t \) x-sint => dx = d(sint) = 7 - f xcos2t cost dt = S cost gost at = S cost at = · SI - sin't dt = S(tin't - sin't) dt = . Sat - Sadt = -ctgt - t + C = = -ctg(arcsin(x)) - arcsin(x) + C = = - st-x* - aresin x + c 2) \ \(\frac{dx}{\partition (1+\sqrt{x})} = \begin{bmatrix} x = t^2 \\ dx = 2t dt \end{bmatrix} = \int \frac{2t dt}{\sqrt{E(1+\sqrt{x})}} = \end{bmatrix} = \frac{2tdt}{f(1+t)} = 2\frac{dt}{4t} = 2\frac{d(t+1)}{t+1} = 2 ln1++1+c = 2 lx 1 x+11+c = = 2 Ln (Jx+1)+C

18.2.27 = e sinx - Sinx ex = ["= e" => "= ex] -= exsinx - (ex(-cosx) - S(-cosx) - ex dx) = = exsinx - (-excosx + Sexcosx dx) = = e sinx + e cosx - Se cosx dx The econs: Sexcosx dx = exsinx+ excosx - Sexcosxdx+C 2 Jexcosx dx = exsinx + excosx + C Sexcosx dx = ex (sinx + cosx) + c 1) Saroty x dx = [" = avobex => " = T =] = = $x \operatorname{arctg} x - \int \frac{x \, dx}{1+x^2} = \int t = 1+x^2 = x$ => dt = & (+x2) = = 2xde => xde = fdt] = \(\frac{x}{1+x^2} = \int \frac{1}{2} \dt = = 1 5 dt = 1 ln/t/+ C = 1 ln(1+x2) + C

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Sarcty x dx = x arcty x - $\frac{1}{2}$ ln (1+x²) + C

2) Ssin Jx dx = $\begin{bmatrix} x = t^2 \\ dx = 2t dt \end{bmatrix}$ - Ssin t 2t dt =

= $\begin{bmatrix} x = t^2 \\ dx = 2t dt \end{bmatrix}$ = -2t cost - $\begin{bmatrix} x = t^2 \\ dx = 2t dt \end{bmatrix}$ = -2t cost + 2 Scost dt =

= -2t cost + 2 Sin t + C =

= -2 \(x \) cos Jx + 2 \(x \) in Jx + C