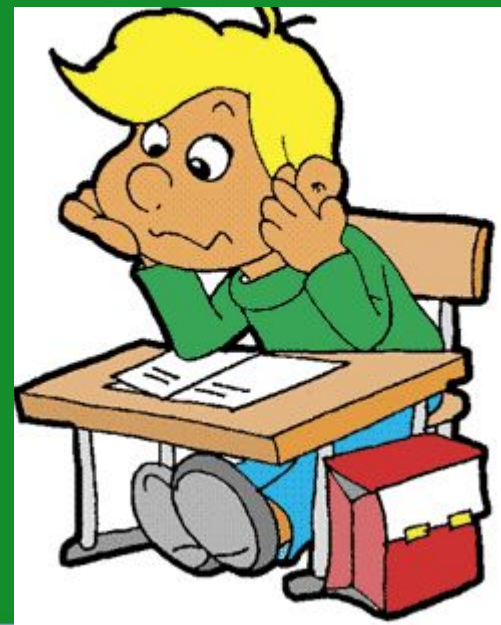


# Математика - ғылымдар бастамасы



# Ашылу салтанаты





$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$u = \ln$$

$$u' = -\frac{1}{x}$$

$$I =$$

$$I = 1$$



$$\int \frac{1}{x \ln x} dx$$

$$\frac{1}{\ln x} \quad v' = -\frac{1}{x}$$

$$-\frac{1}{x} (\ln x)^{-2} \quad v =$$

$$\frac{\ln x}{\ln x} - \int$$

$$+ \int \frac{1}{x \ln x}$$

$$+ I$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \frac{\ln x}{\ln x} - \int -\frac{\ln x}{x \ln^2 x}$$







$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$\int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln x$$

$$\int \frac{1}{x \ln x} dx$$

$$\int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

# Поэзиялық кеш







$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx = \ln|x| + C$$

$$I = \int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln|x| + C$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$\int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln x$$

$$\int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx = \ln x + C$$

$$I = \int \frac{1}{x} dx = \ln x + C$$



# ШАХМАТ





# Сәнді фигуралар





$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$= \ln|x| + C$$

$$\int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln|x|$$

$$\int \frac{1}{x} dx$$

$$\frac{1}{x \ln x}$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx = \ln|x| + C$$





$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x^2} dx$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$v' = \frac{1}{x}$$

$$v = \ln|x|$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$\int \frac{1}{x \ln x} dx = \frac{1}{2} (\ln|x|)^2 + C$$

$$\int \frac{1}{x \ln x} dx = \frac{1}{2} (\ln|x|)^2 + C$$

$$\int \frac{1}{x \ln x} dx = \frac{1}{2} (\ln|x|)^2 + C$$

$$\int \frac{1}{x \ln x} dx = \frac{1}{2} (\ln|x|)^2 + C$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx = \frac{1}{2} (\ln|x|)^2 + C$$









$I = \int \frac{1}{x \ln x} dx$

$I = \int \frac{1}{x} dx$

$\int \frac{1}{x} dx = \ln|x| + C$

$\int \frac{1}{x^2} dx = -\frac{1}{x} + C$

$\int \frac{1}{x^3} dx = -\frac{1}{2x^2} + C$

$\int \frac{1}{x^n} dx = \frac{x^{-n+1}}{-n+1} + C$

$\int \frac{1}{x} dx = \ln|x| + C$

$\int \frac{1}{x^2} dx = -\frac{1}{x} + C$

$\int \frac{1}{x^3} dx = -\frac{1}{2x^2} + C$

$\int \frac{1}{x^n} dx = \frac{x^{-n+1}}{-n+1} + C$

$\int \frac{1}{x} dx = \ln|x| + C$

$\int \frac{1}{x^2} dx = -\frac{1}{x} + C$

$\int \frac{1}{x^3} dx = -\frac{1}{2x^2} + C$

$\int \frac{1}{x^n} dx = \frac{x^{-n+1}}{-n+1} + C$

$\int \frac{1}{x} dx = \ln|x| + C$

$\int \frac{1}{x^2} dx = -\frac{1}{x} + C$

$\int \frac{1}{x^3} dx = -\frac{1}{2x^2} + C$

$\int \frac{1}{x^n} dx = \frac{x^{-n+1}}{-n+1} + C$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$v' = \frac{1}{x}$$

$$v = \ln|x| + C$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$\int \frac{1}{x \ln x} dx = \ln|\ln|x|| + C$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx = \ln|x| + C$$

$$I = \int \frac{1}{x} dx = \ln|x| + C$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x^2} dx$$

$$I = \int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = -2 \ln x$$

$$I = \int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x^2} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln x$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x^2} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x^2} dx = -\frac{1}{x} + C$$

$$I = \int \frac{1}{x} dx = \ln|x| + C$$

$$v' = \frac{1}{x}$$

$$v = \ln|x|$$

$$I = \int \frac{1}{x \ln x} dx$$



# Математика өмірдің өзі КТК





$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln x$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx = \ln|x| + C$$

$$I = \int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln|x|$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$v' = \frac{1}{x}$$

$$-2 v =$$

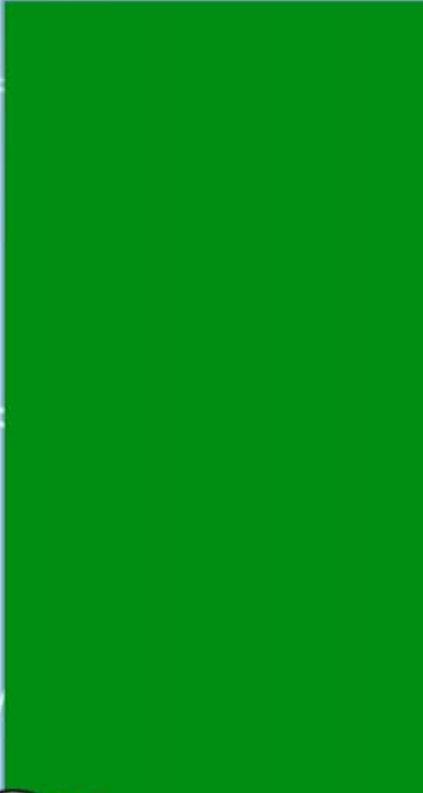
$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$





$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$v' = \frac{1}{x}$$

$$v = \ln|x| + C$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$\int \frac{1}{x \ln x} dx = \frac{1}{2} (\ln|x|)^2 + C$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$\int \frac{1}{x} dx = \ln|x| + C$$





# 1 этаж







$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x} dx$$
$$v' = \frac{1}{x}$$
$$v = \ln x$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x^2} dx$$

$$\int \frac{1}{x} dx$$

$$\int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = -\ln|x| + C$$

$$\int \frac{1}{x} dx$$

$$\int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx = \ln|x| + C$$



$$\int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = -\ln|x| + C$$

$$\int \frac{1}{x} dx$$

$$\int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx = \ln|x| + C$$

$$I = \int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln|x|$$

$$I = \int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x^2} dx$$

$$\int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln x$$

$$\int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x^2} dx$$



$$\int \frac{1}{x} dx$$

$$\int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$u = \ln x$$

$$u' = \frac{1}{x}$$

$$I =$$

$$I =$$

$$I =$$

$$0 =$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \frac{\ln x}{\ln x} - \int -\frac{\ln x}{x^2} dx$$

$$\int \frac{1}{x \ln x} dx$$

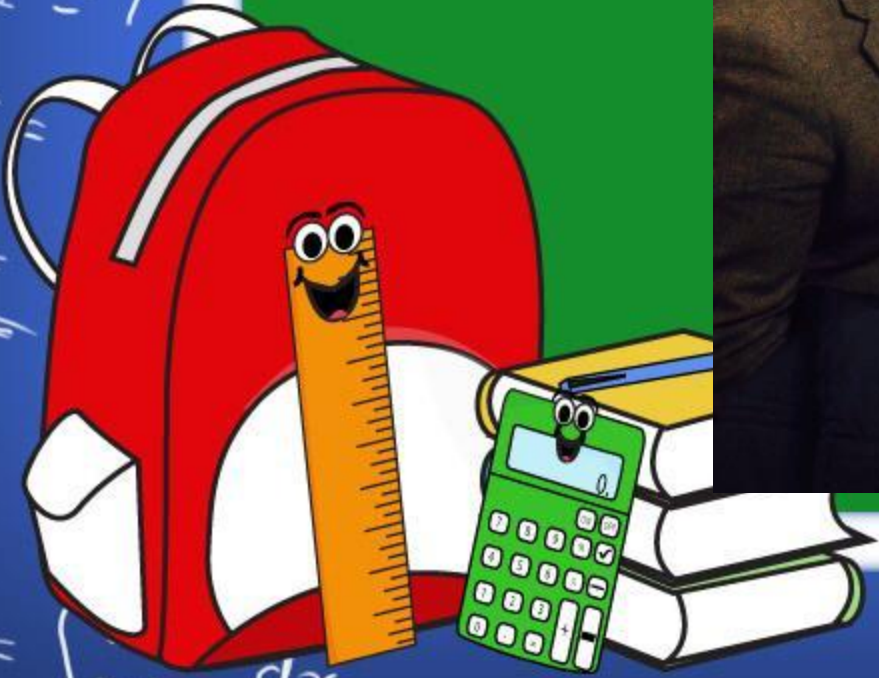
$$\frac{1}{\ln x} \quad v' = \frac{1}{x}$$

$$\frac{1}{x} (\ln x)^{-2} \quad v =$$

$$\frac{\ln x}{\ln x} - \int$$

$$+ \int \frac{1}{x \ln x}$$

$$+ I$$





$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln x$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$







$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$v' = \frac{1}{x}$$

$$v = \ln|x| + C$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$\int \frac{1}{x \ln x} dx = \frac{1}{2} (\ln|x|)^2 + C$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx = \ln|x| + C$$



$$\int \frac{1}{x} dx = \ln|x| + C$$

$$v' = \frac{1}{x}$$

$$v = \ln|x| + C$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$\int \frac{1}{x \ln x} dx = \frac{1}{2} (\ln|x|)^2 + C$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$v' = \frac{1}{x}$$

$$v = \ln|x| + C$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$\int \frac{1}{x \ln x} dx = \frac{1}{2} (\ln|x|)^2 + C$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx = \ln|x| + C$$



$$\int \frac{1}{x} dx = \ln|x| + C$$

$$v' = \frac{1}{x}$$

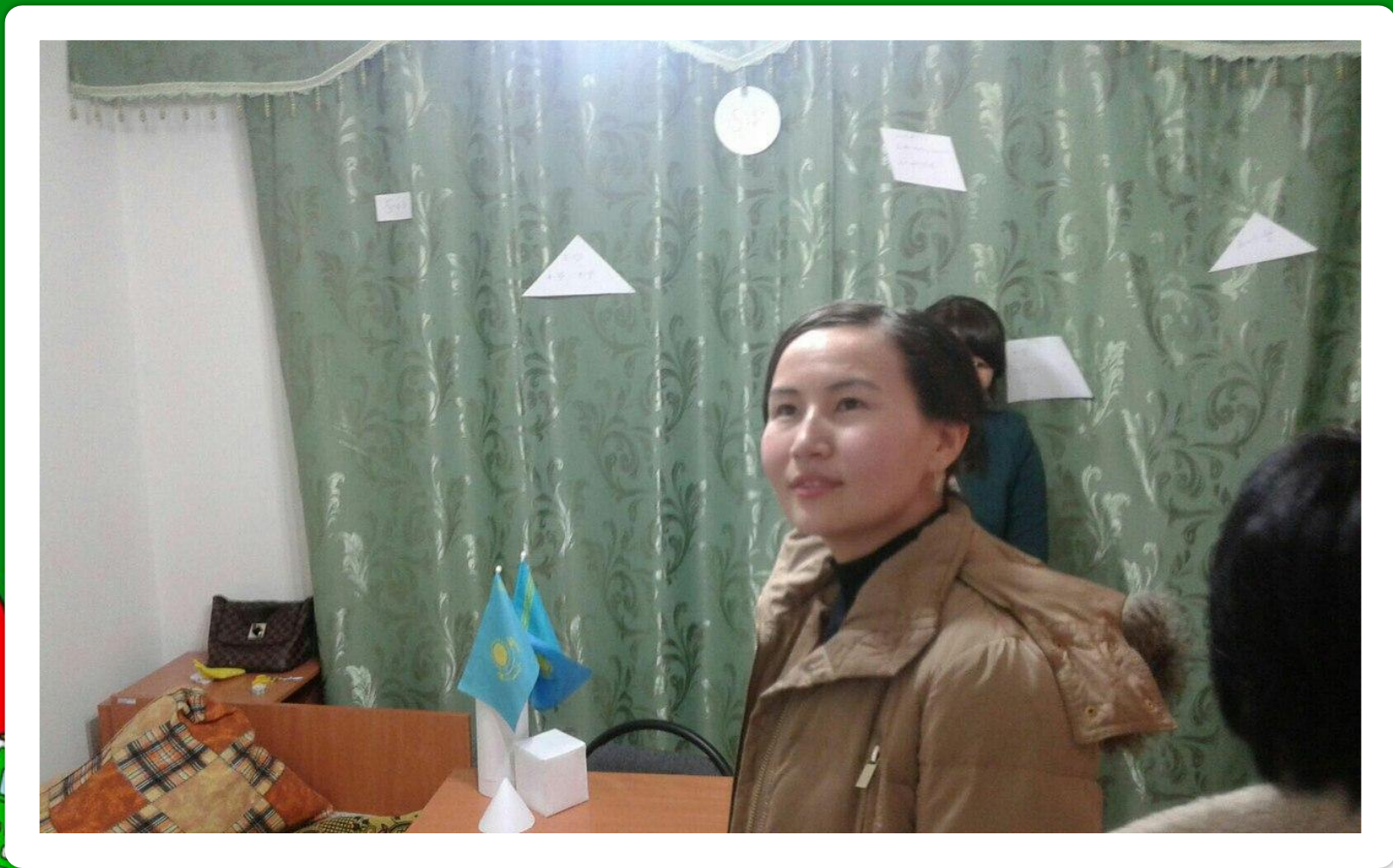
$$v = \ln|x| + C$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$\int \frac{1}{x \ln x} dx = \frac{1}{2} (\ln|x|)^2 + C$$



# 2 ЭТАЖ





$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x^2} dx$$

$$= \ln(x) + C$$

$$\int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

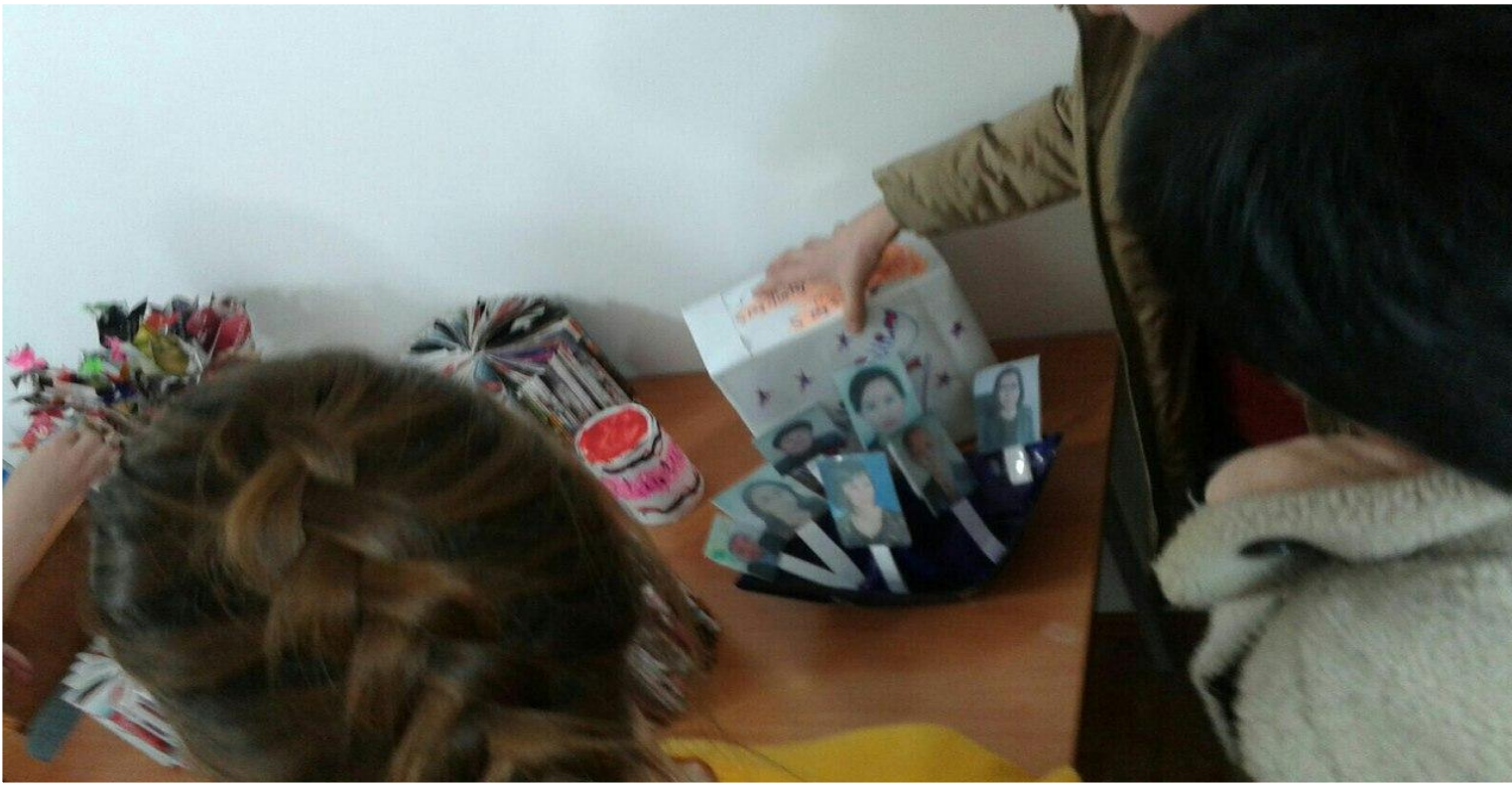
$$-2 v =$$

$$\int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x^2} dx = -\frac{1}{x} + C$$





$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x^2} dx$$

$$I = \int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = -\ln|x| + C$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx = \ln|x| + C$$



$$I = \int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

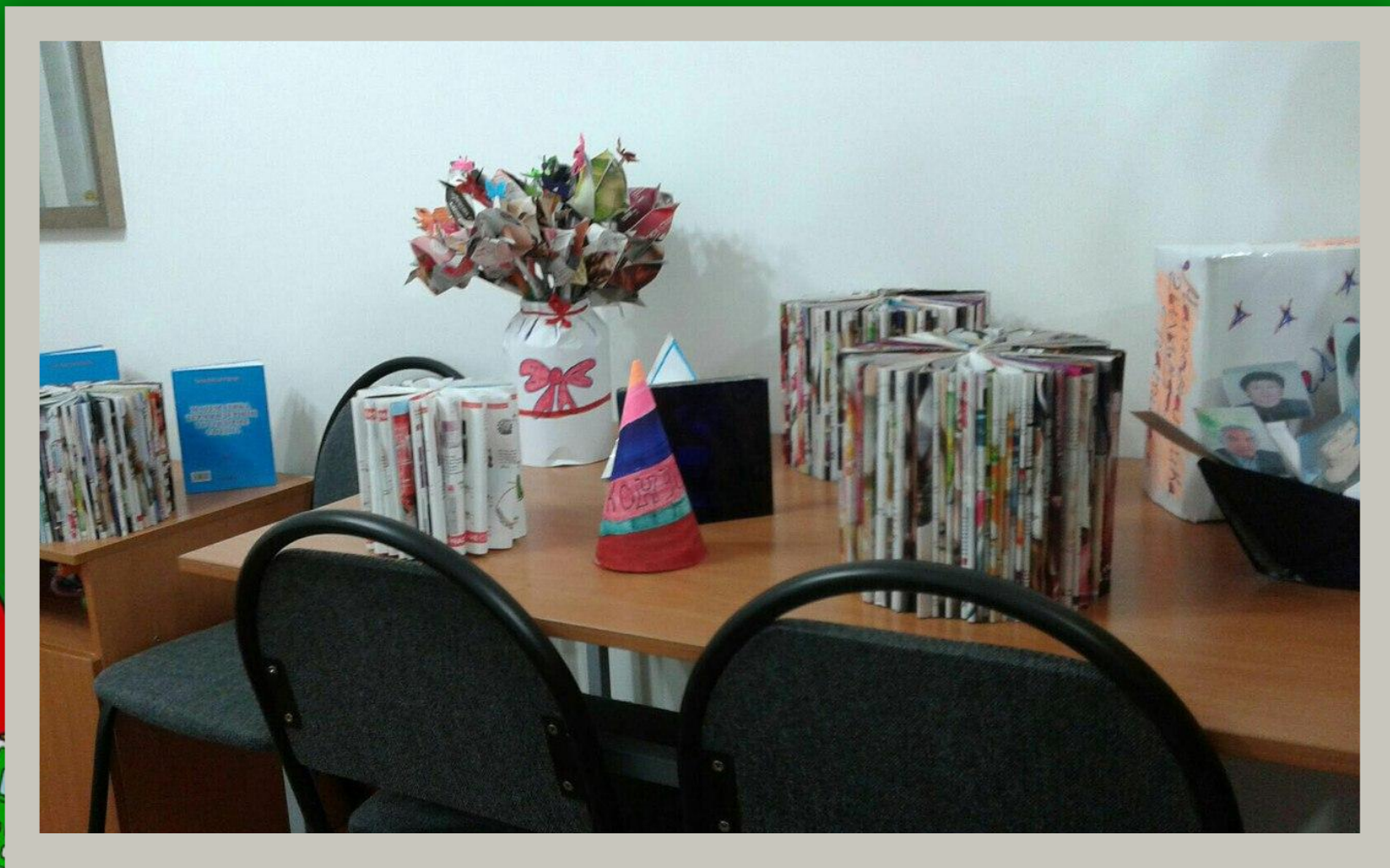
$$v = -\ln|x| + C$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$



# 3 ЭТАЖ





$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$= \ln|x| + C$$

$$\int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$-2v =$$

$$\int \frac{1}{x \ln x}$$

$$\frac{1}{x \ln x}$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx = \ln|x| + C$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x} dx$$



$$I = \int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln x$$

$$I = \int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$



$$\int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln x$$

$$\int \frac{1}{x} dx = \ln|x| + C$$

$$\int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$



# 4 ЭТАЖ







$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$\int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln x$$

$$\int \frac{1}{x \ln x} dx$$

$$\int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$\int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x^2} dx$$

$$I = \int \frac{1}{x^2} dx$$

$$I = \int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln x$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx = \ln x + C$$







$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln x$$

$$I = \int \frac{1}{x \ln x} dx$$





$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$\int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$-2 v =$$

$$\int \frac{1}{x \ln x}$$

$$\int \frac{1}{x \ln x}$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx = \ln|x| + C$$

$$= \frac{\ln x}{x} - \frac{1}{x^2} + C$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x^2} dx$$



$$\int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln x$$

$$\int \frac{1}{x \ln x} dx$$

$$\int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x^2} dx$$

$$\int \frac{1}{x^2} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$v' = -\frac{1}{x}$$

$$v = -\ln x$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

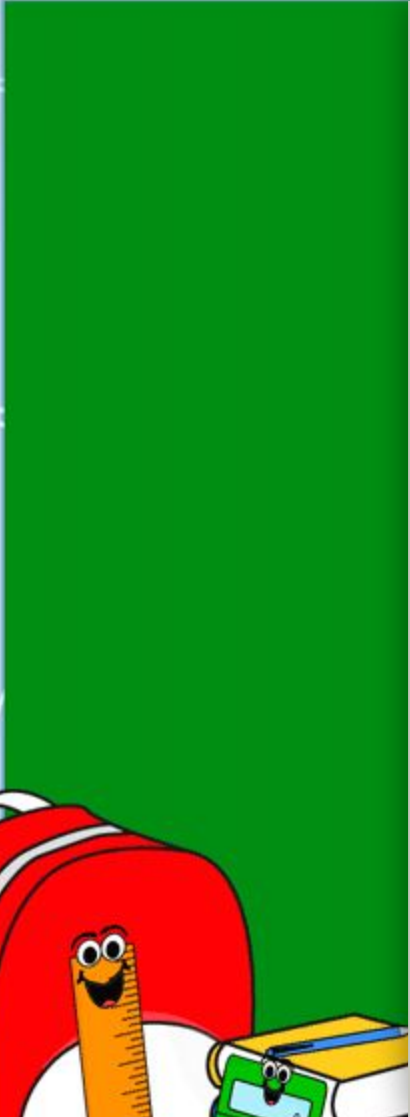
$$I = \int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

)))



$$\int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln x$$

$$\int \frac{1}{x \ln x} dx$$

$$\int \frac{1}{x \ln x} dx$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$





$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx = \ln|x| + C$$

$$v' = \frac{1}{x}$$
$$v = \ln|x|$$



$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$= \ln|x| + C$$

$$\int \frac{1}{x} dx$$

$$v' = \frac{1}{x}$$

$$v = \ln|x|$$

$$\int \frac{1}{x \ln x} dx$$

$$\int \frac{1}{x \ln x} dx$$

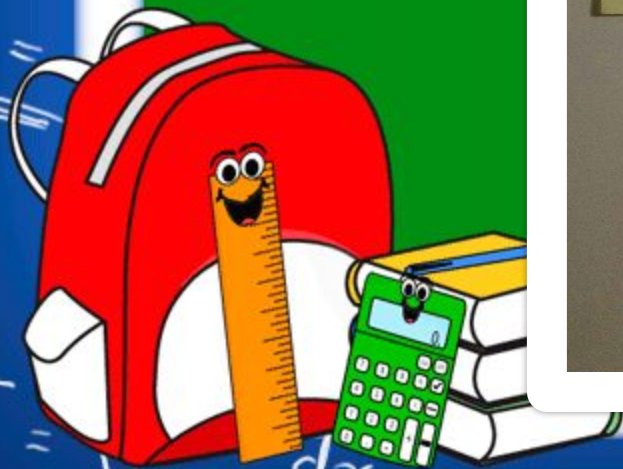


$$I = \int \frac{1}{x \ln x} dx$$

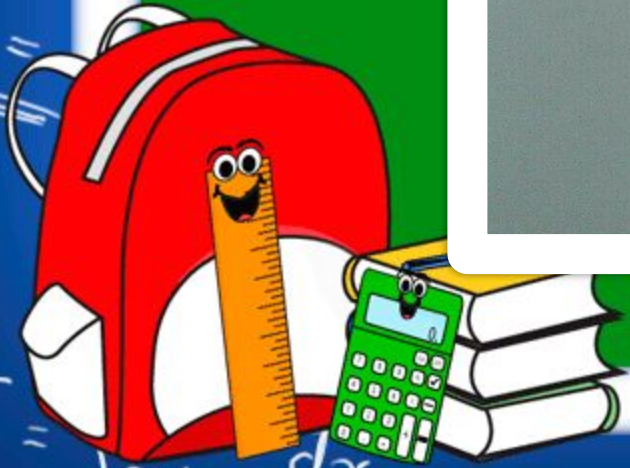
$$I = \int \frac{1}{x} dx = \ln|x| + C$$



# 6 ЭТАЖ







$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

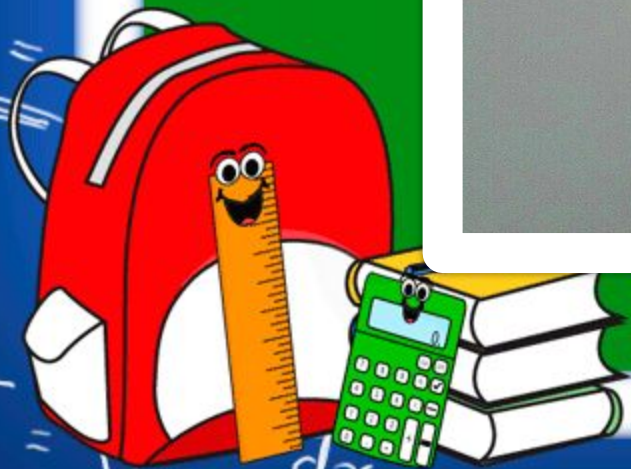
$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx = \ln|x| + C$$

$$I = \int \frac{1}{x} dx = \ln|x| + C$$
$$v' = \frac{1}{x}$$
$$v = \ln|x|$$
$$-2 v = -2 \ln|x|$$
$$= -\ln|x^2|$$
$$= -\ln|x^2|$$





$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx$$

$$I = \int \frac{1}{x \ln x} dx$$

$$I = \int \frac{1}{x} dx = \ln|x| + C$$

$$v' = \frac{1}{x}$$
$$v = \ln|x| + C$$



Назарларыңызға рахмет !

