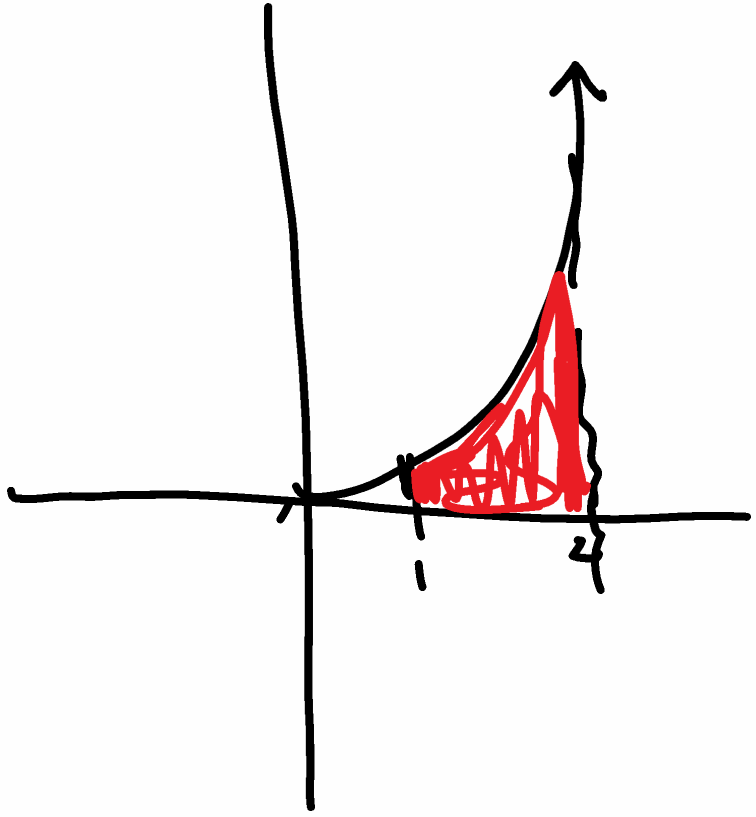
Definite Integrals

Ex. Find the area under $y = x^2$ between $x = 1$ and $x = 4$.



$$\int_1^4 x^2\,dx = F(4) - F(1)$$

$$= \frac{1}{3}(4)^3 - \frac{1}{3}(1)^3$$

$$= \frac{64}{3} - \frac{1}{3} = \frac{63}{3} = 21$$

2. $\int_1^7 \frac{1}{x^2}\,dx$ $\qquad F(x) = -x^{-1}$

$= -(7)^{-1} + 1^{-1}$

$= \frac{-1}{7} + 1$

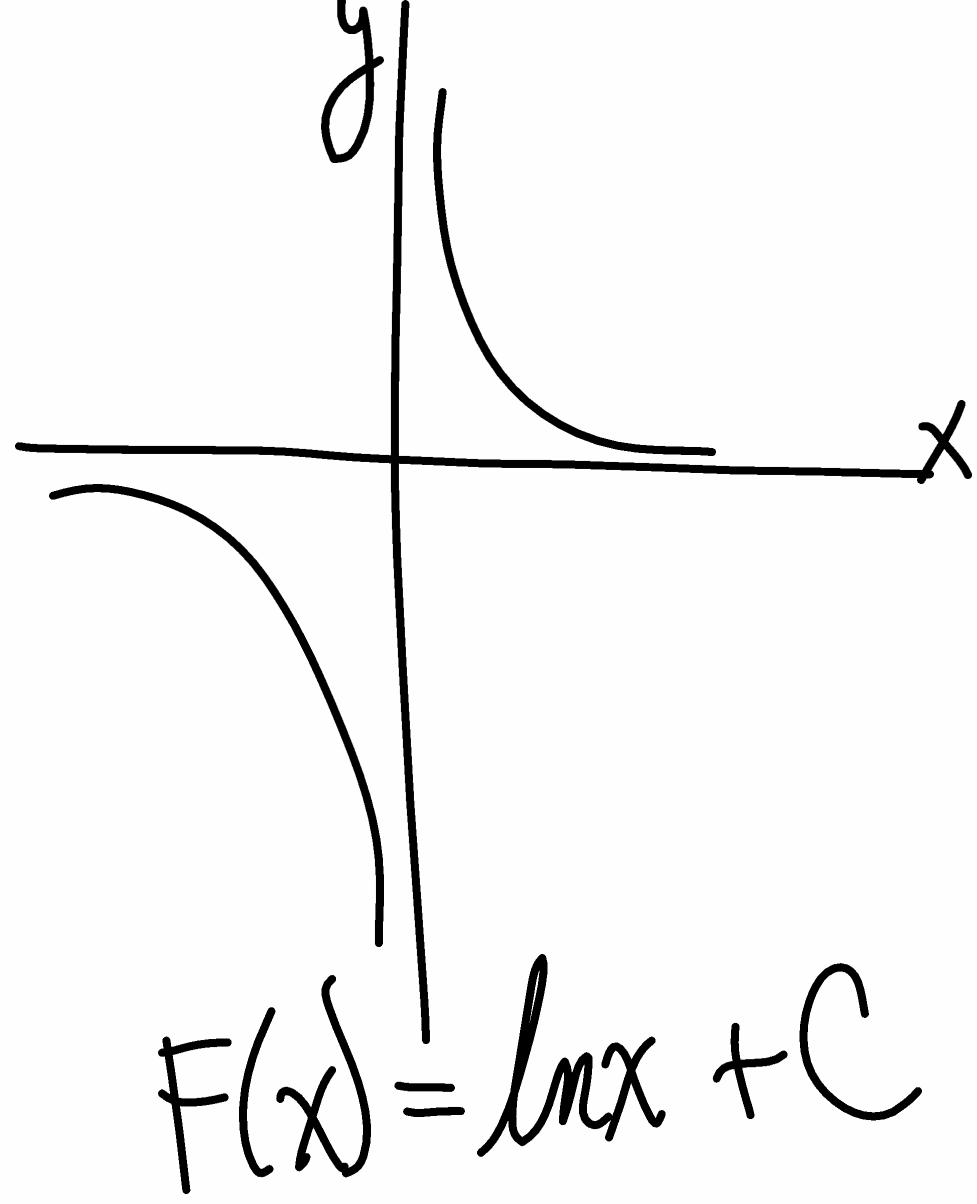
$= \frac{6}{7}$

3. $\int_1^{10} \frac{1}{x}\,dx$

$= \ln 10 - \ln 1$

$= \ln\left(\frac{10}{1}\right)$

$= \ln 10$



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

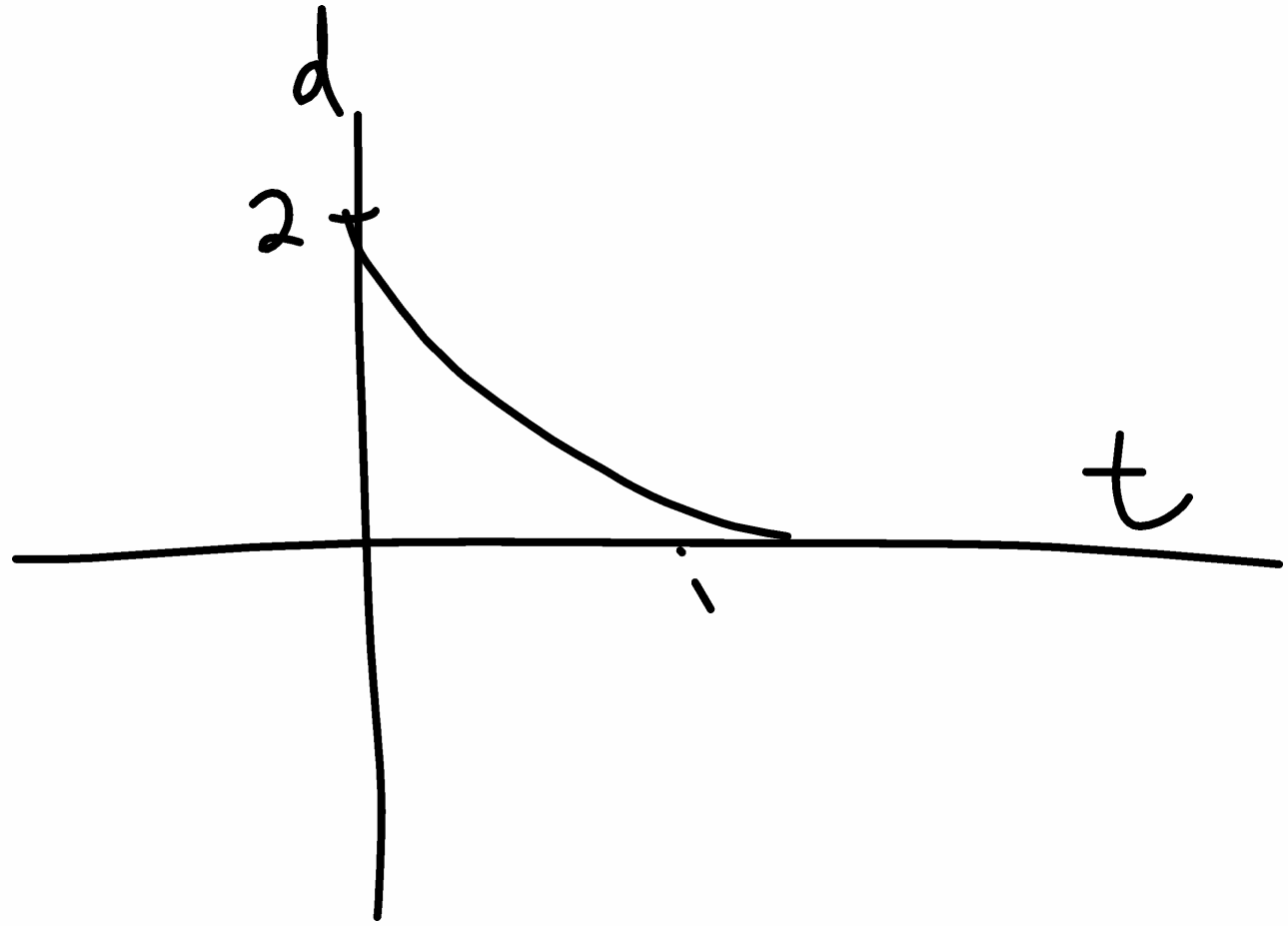
13. $\int_{-1}^{1} 2^{x+1}\,dx$

$= F(1) - F(-1)$

$= \frac{2^2}{\ln 2} - \frac{2^0}{\ln 2}$

$= \frac{4}{\ln 2} - \frac{1}{\ln 2}$

$= \frac{3}{\ln 2}$


d
2
t

$$\int \cos(2\pi t)\,dt$$

$$\vdots$$

$$-(2\pi)\sin$$

$$\int \cos(2\pi t)\,dt$$

$\sin 2\pi t$

$\downarrow$

$2\pi \cos(2\pi t)$

$$-2\pi \sin(2\pi t)$$

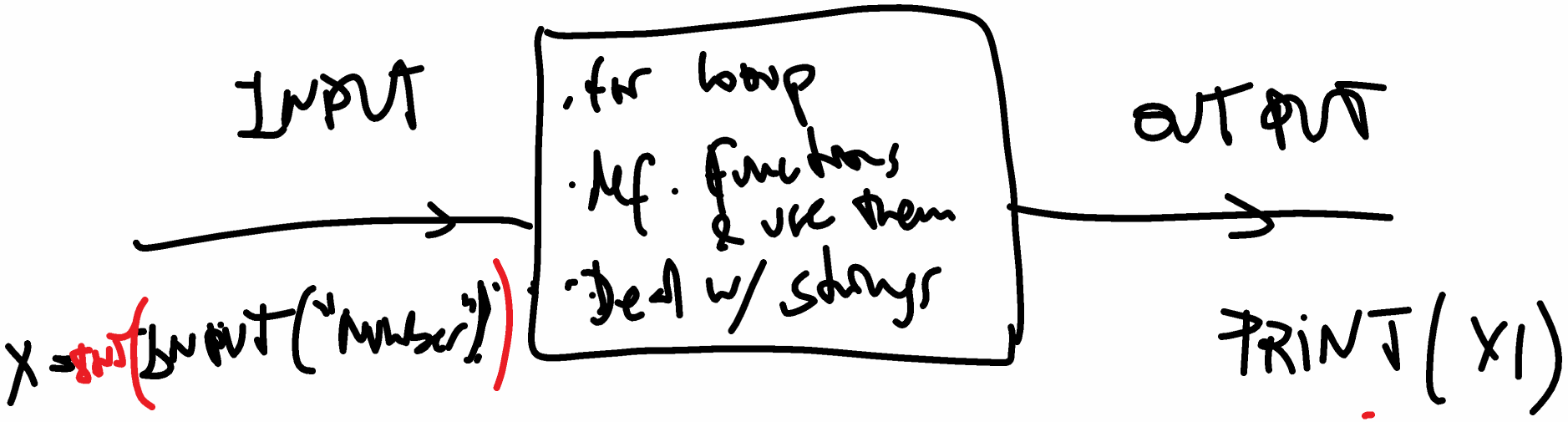
1) FOR HOW LONG DID YOU STUDY FOR TEST WHEN?

2) DID YOU STUDY DAY BEFORE? IF DO FOR LONG?

3) IF ANS TO 2) IS YES, DID YOUR STUDY GO INTO NIGHT? (DID YOU STUDY TILL LATE NIGHT?

IF YES, TILL WHAT TIME?

4) HOW DID YOU PREPARE FOR TEST? What kind of work did you do? (Ex: went through all exercises, & practice tests"


INPUT
. for loop
. if. functions & use them
. Deal w/ strings
OUTPUT
X = int(INPUT("Number"))
PRINT(X1)

1) Go / Have Overview of what we saw. Identify weak points

2) RESOURCES: a) Material from course: Assignments/solutions
Notes
Book / Teacher's Notes
b) Discussing w/ class mate / or yourself out loud
c) Internet
d) Asking TEACHER: EMAIL

3) WHEN / HOW LONG
- 2-3 days advance, $\frac{1}{2}$ → 1h/day (1h/day)
- short review before test
- 1 week adv. $\frac{1}{2}$+ /day