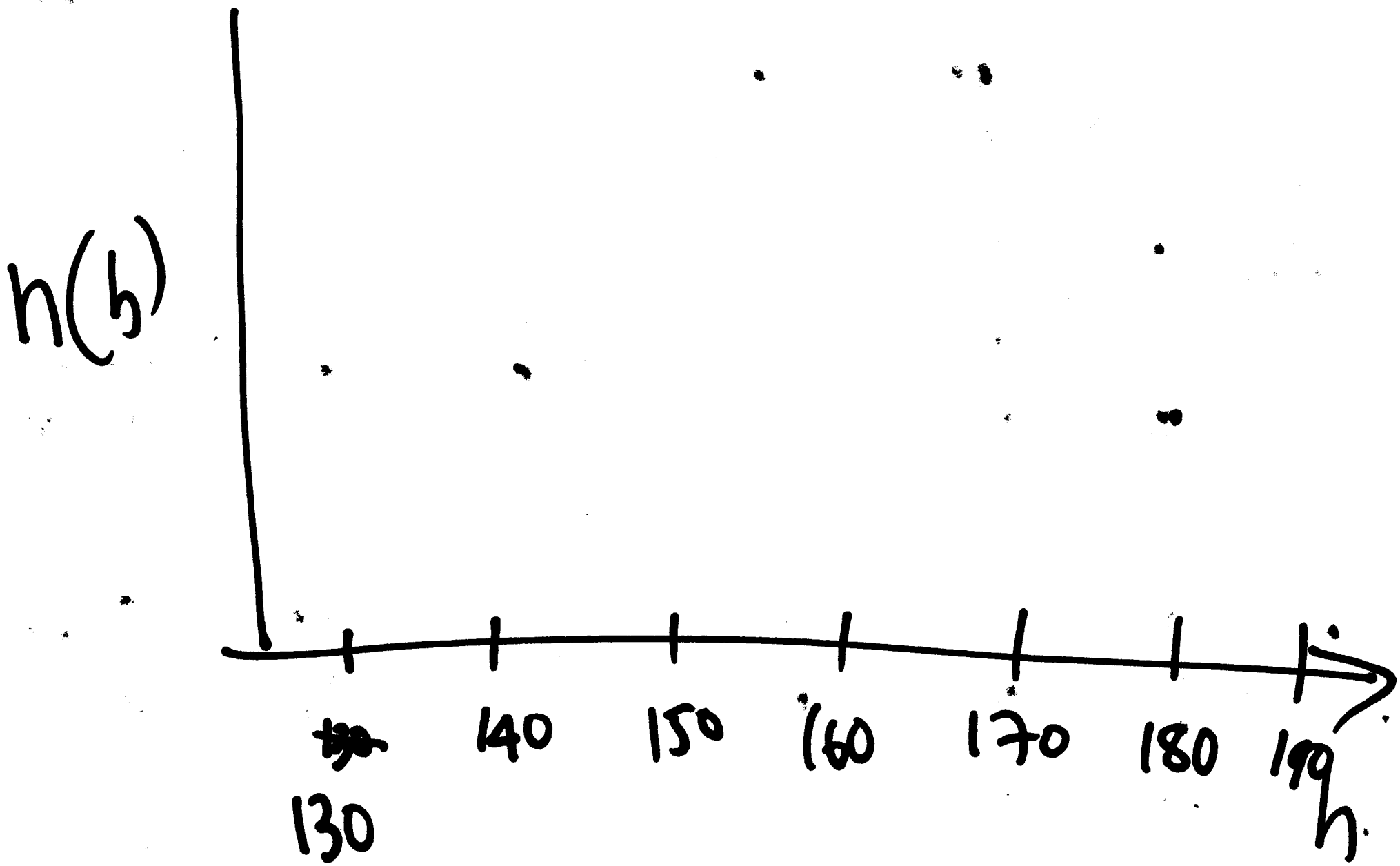
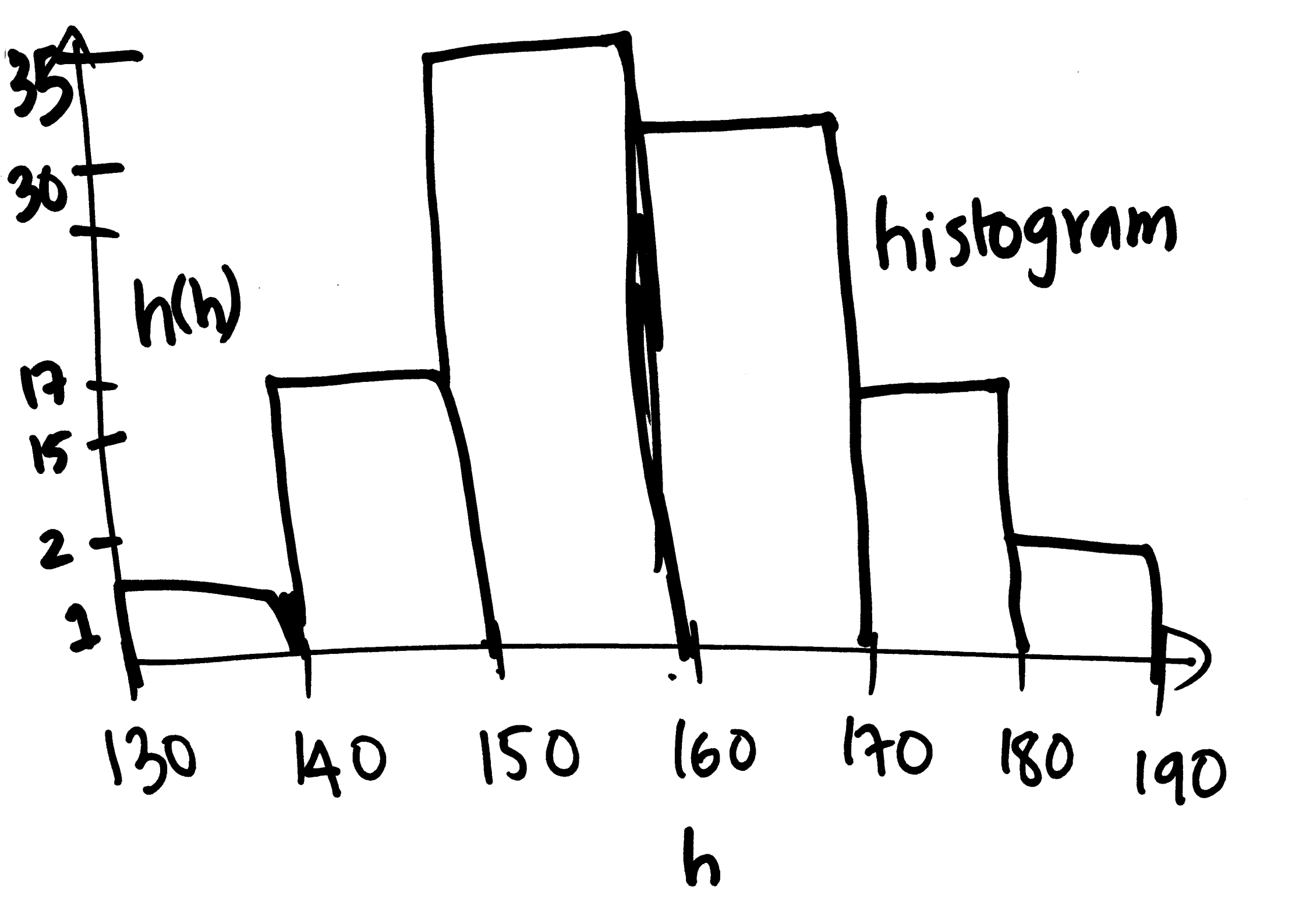
Prof. Ranjith (L-22)

15/10/11




35
30
h(h)
17
15
2
1
histogram
130
140
150
160
170
180
190
h

130 - 132

132 - 134

=

150 - 152

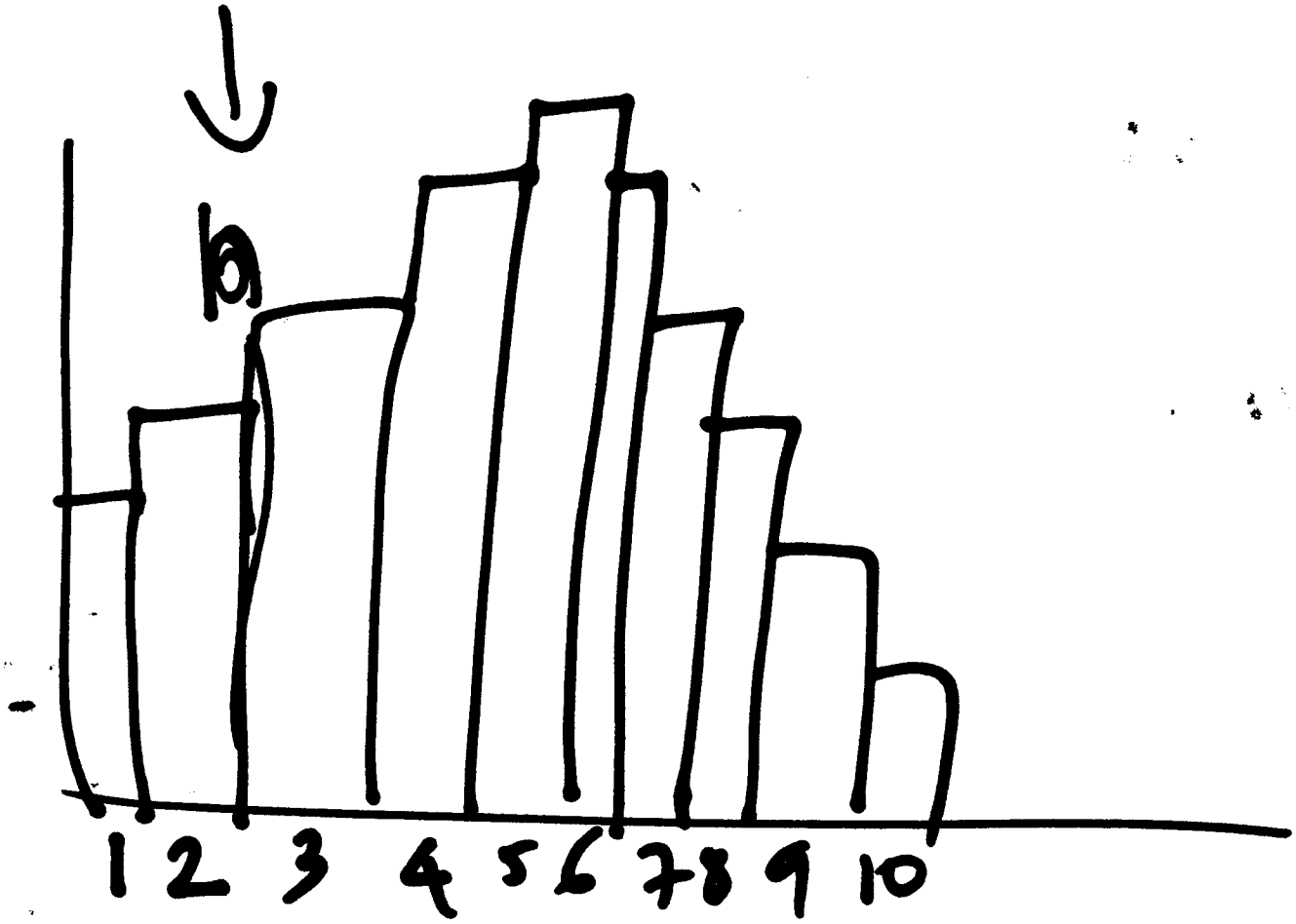
152 - 154

~~161 - 1~~

160 - 162

162 - 164

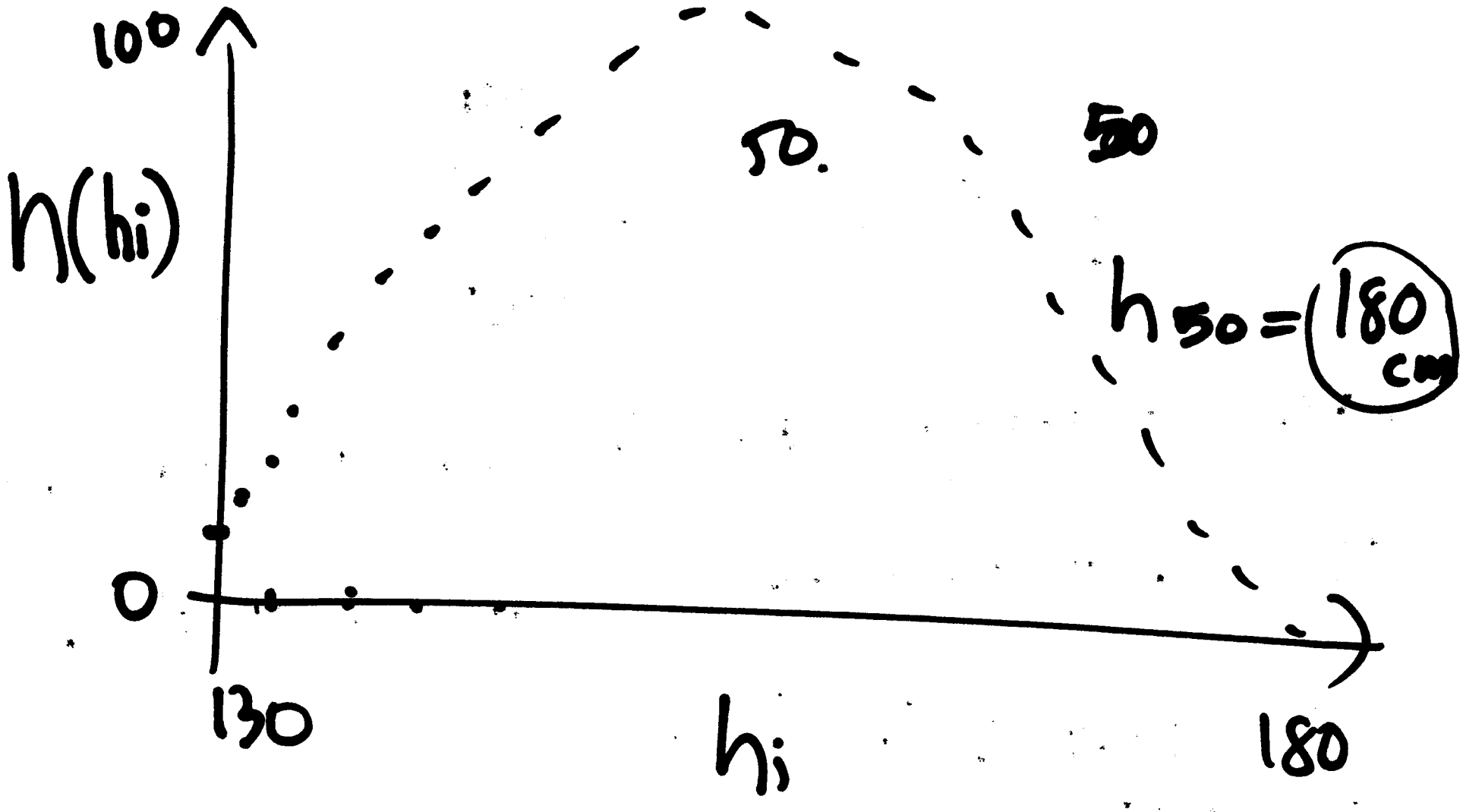
$n(h_i) \rightarrow \underline{h_i}$



130 — 180

$h_1 = 130\,cm$

$h_2 = 131\,cm$



$h_{50} = 180\,cm$

$$h\, n(h_i)$$

$$\sum_{i=1}^{50} n(h_i) = ?$$

$$n(h_1) + n(h_2) + n(h_3) + \cdots n(h_{50})$$

$$n(131) + n(132)\ n(133) + \cdots n(180)$$

= Total number of students

$$p(h_i) = \frac{n(h_i)}{N}$$

where $N = \sum_i n(h_i)$

"Probability"

$$0 \leq P \leq 1$$

$$p(h) = \frac{n(h)}{N}$$

$$N = 100$$

131 - 1

140 - 10

150 - 15

~~#~~

180 - 0

$$P(131) = \frac{1}{100}$$

$$P(140) = \frac{10}{100}$$

$$P(150) = 0.15$$

$$P(180) = 0$$

$$P(h) = \frac{n(h)}{N}$$

P(131)

P(132)

⋮

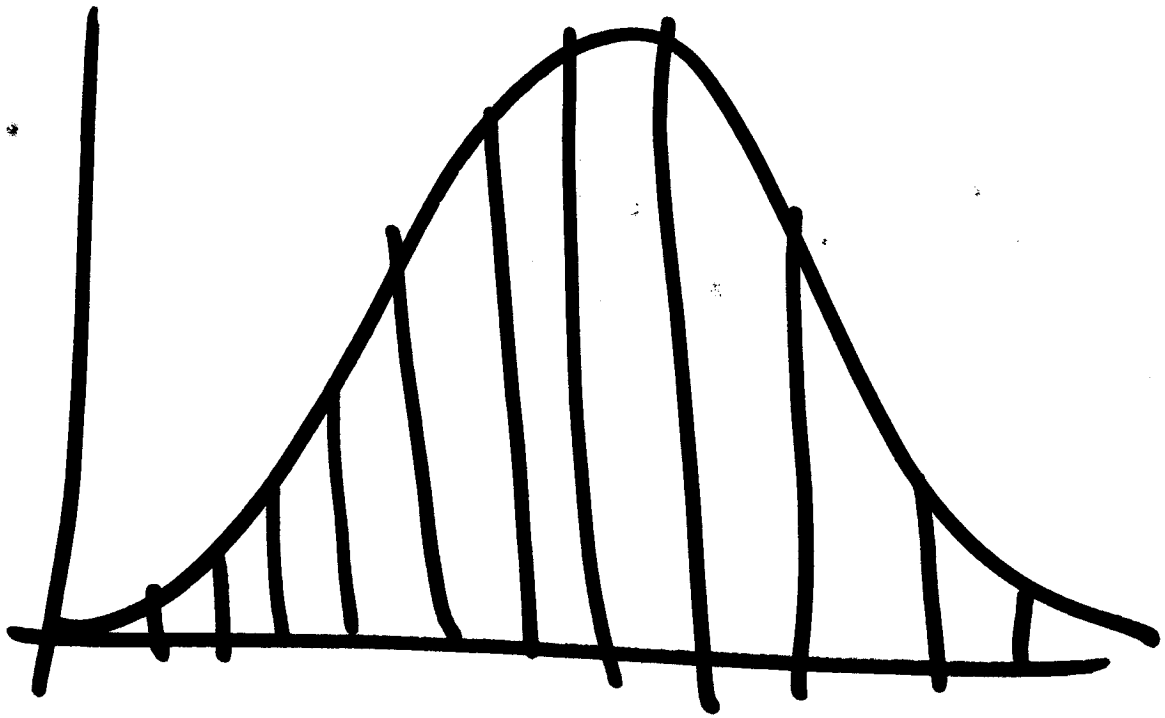
P(140)

P(150)

⋮

P(hi)

$$\langle h \rangle = \sum_i h_i P(h_i)$$



$$\langle h \rangle = \int h\, P(h)\, dh$$

$$\langle h^2 \rangle = \int h^2\, P(h)\, dh$$

$$\tilde{C}(x) = \frac{C(x)}{C_T}$$

$$P(h) = \frac{h(h)}{N}$$

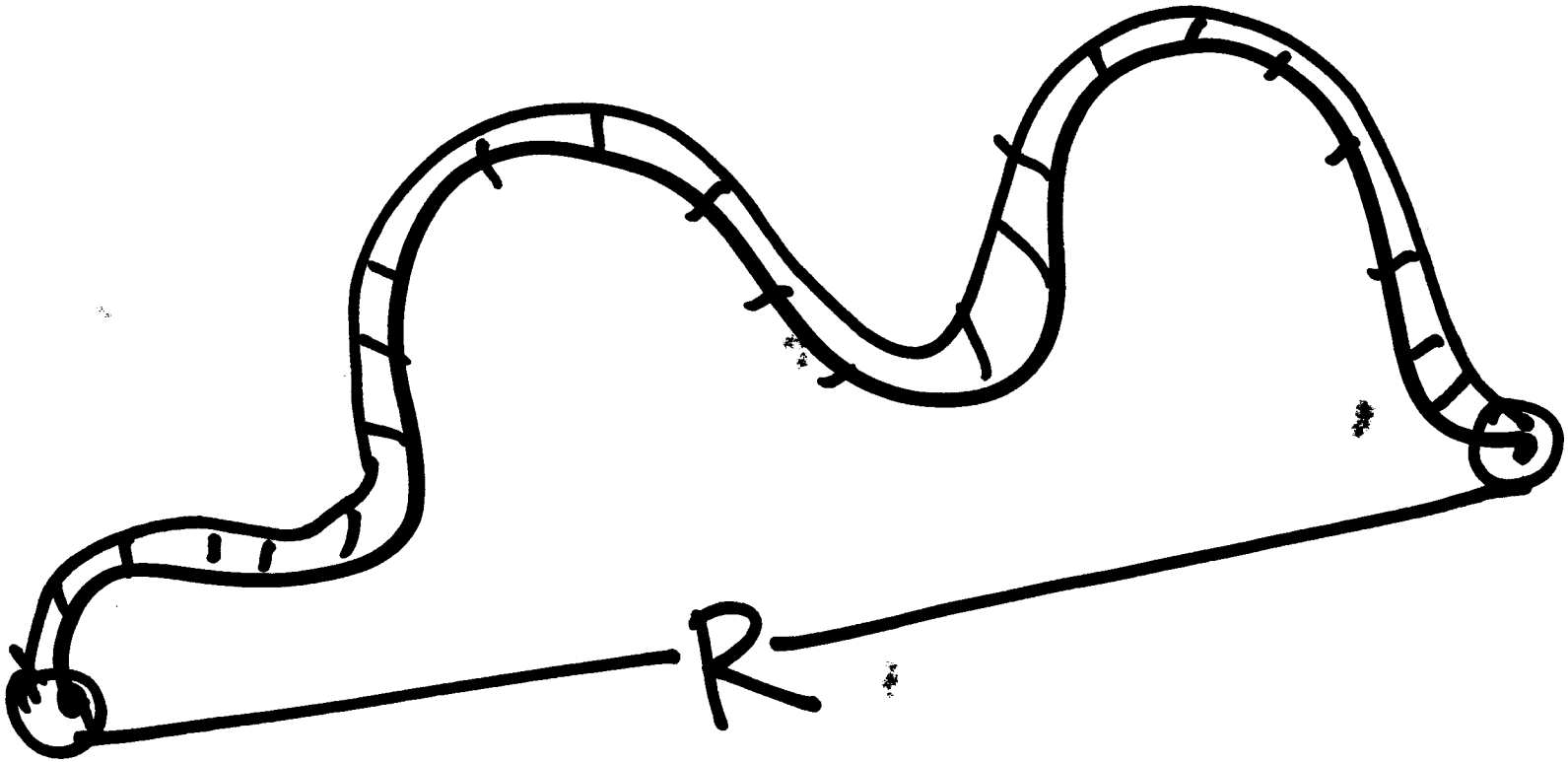
$$\langle x \rangle = \int x \, \tilde{c}(x) \, dx$$

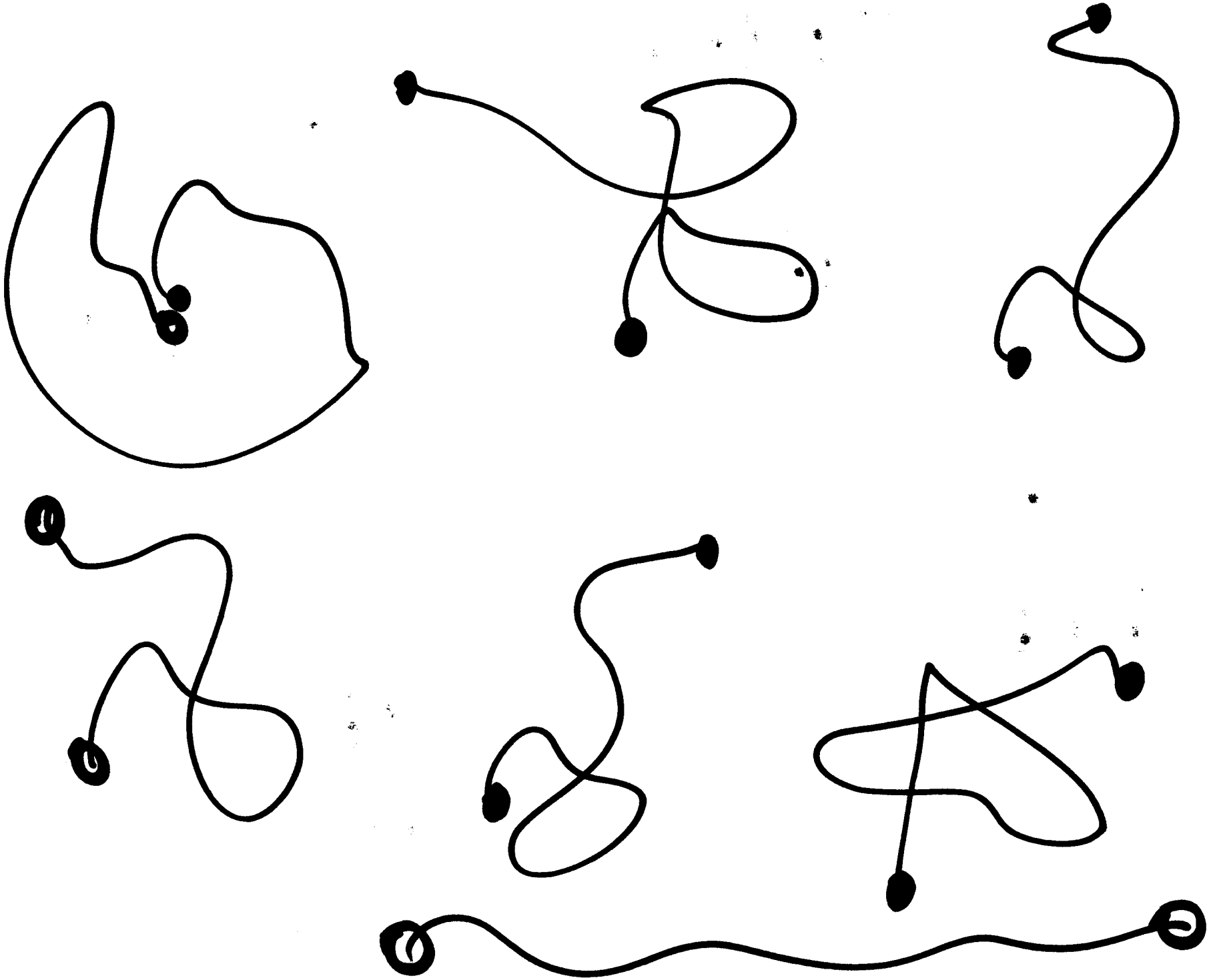
$$\langle x^2 \rangle = \int x^2 \, \tilde{c}(x) \, dx$$

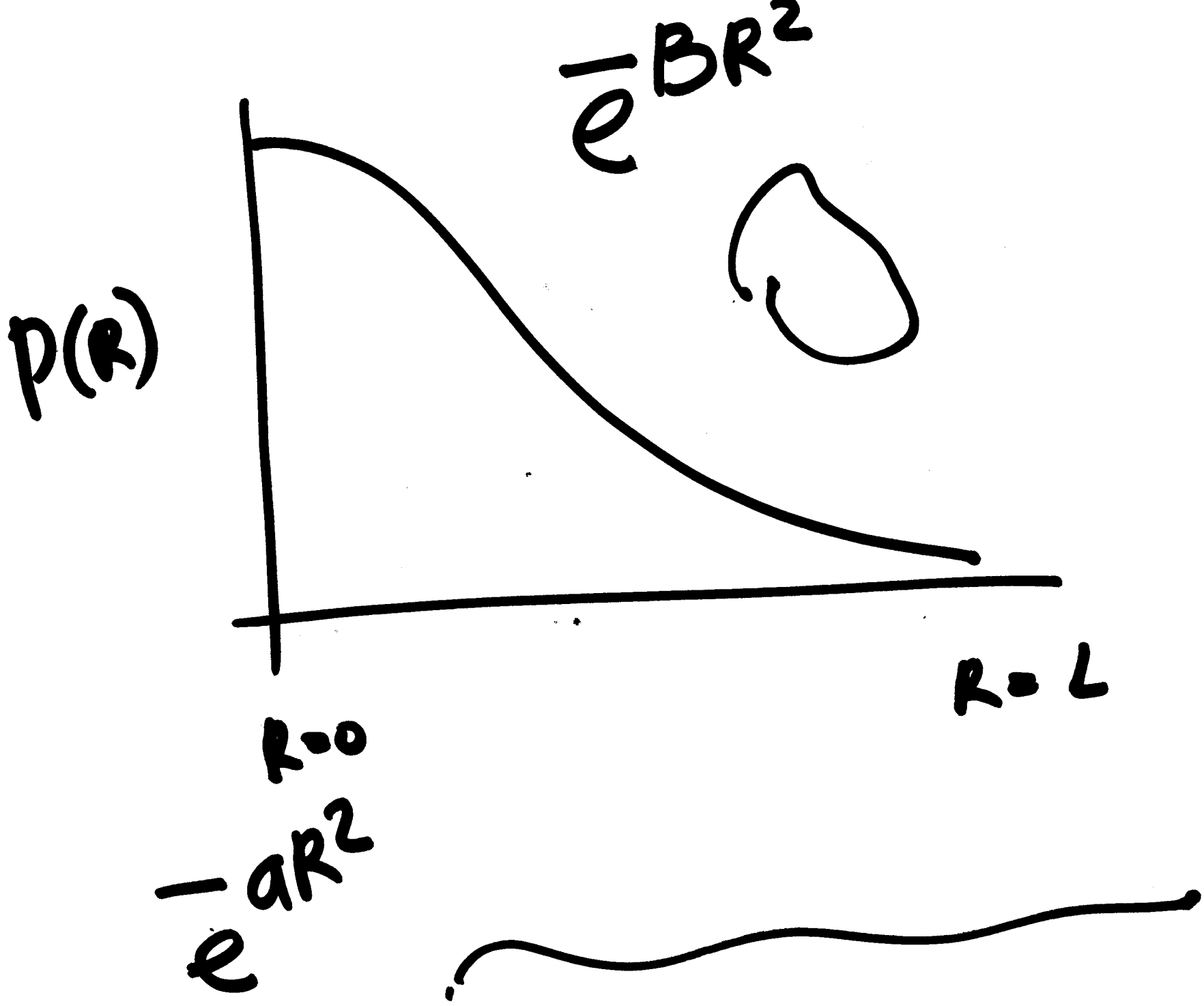
Normal distribution

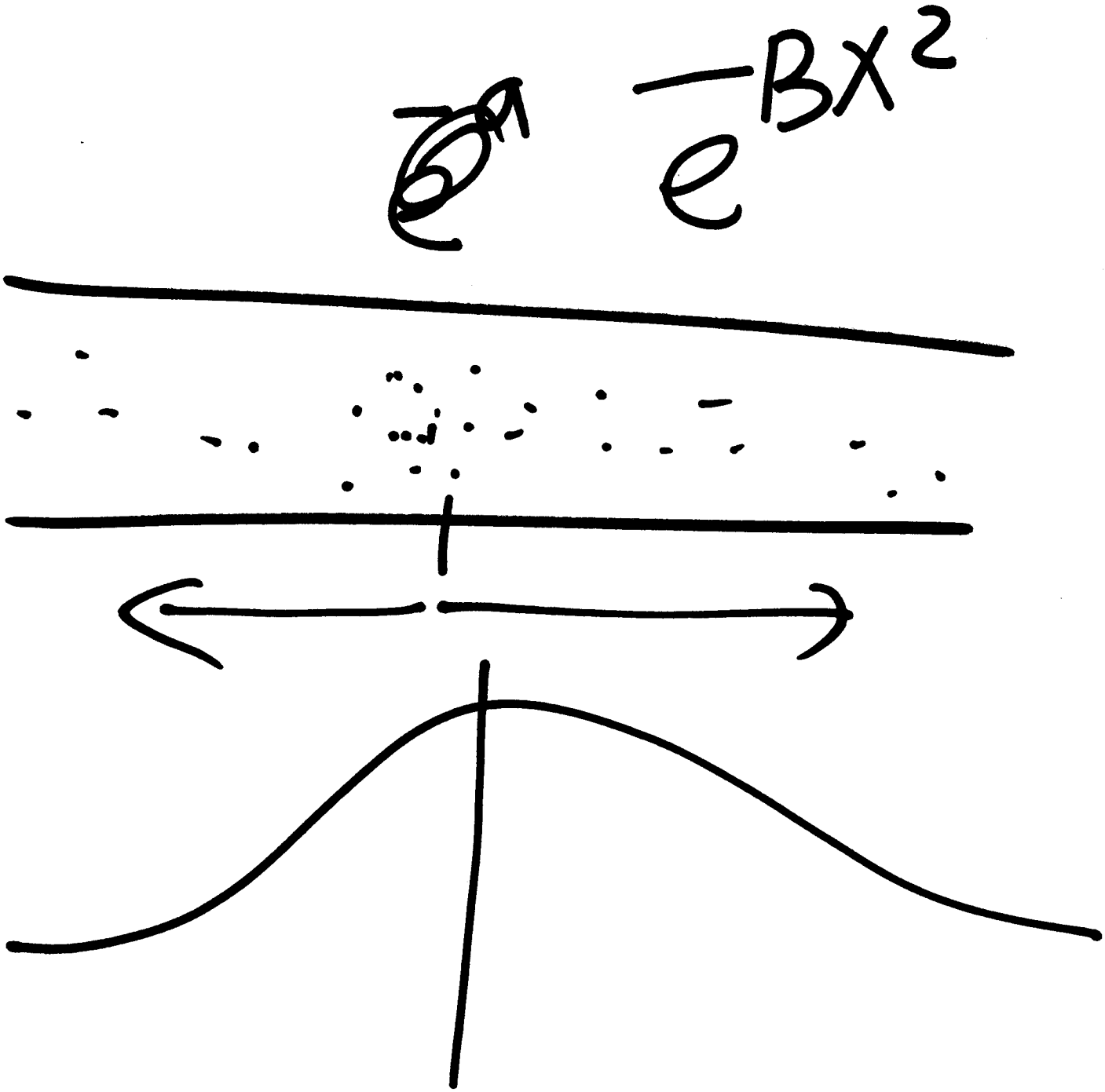
$$f(x) = e^{-Bx^2}$$

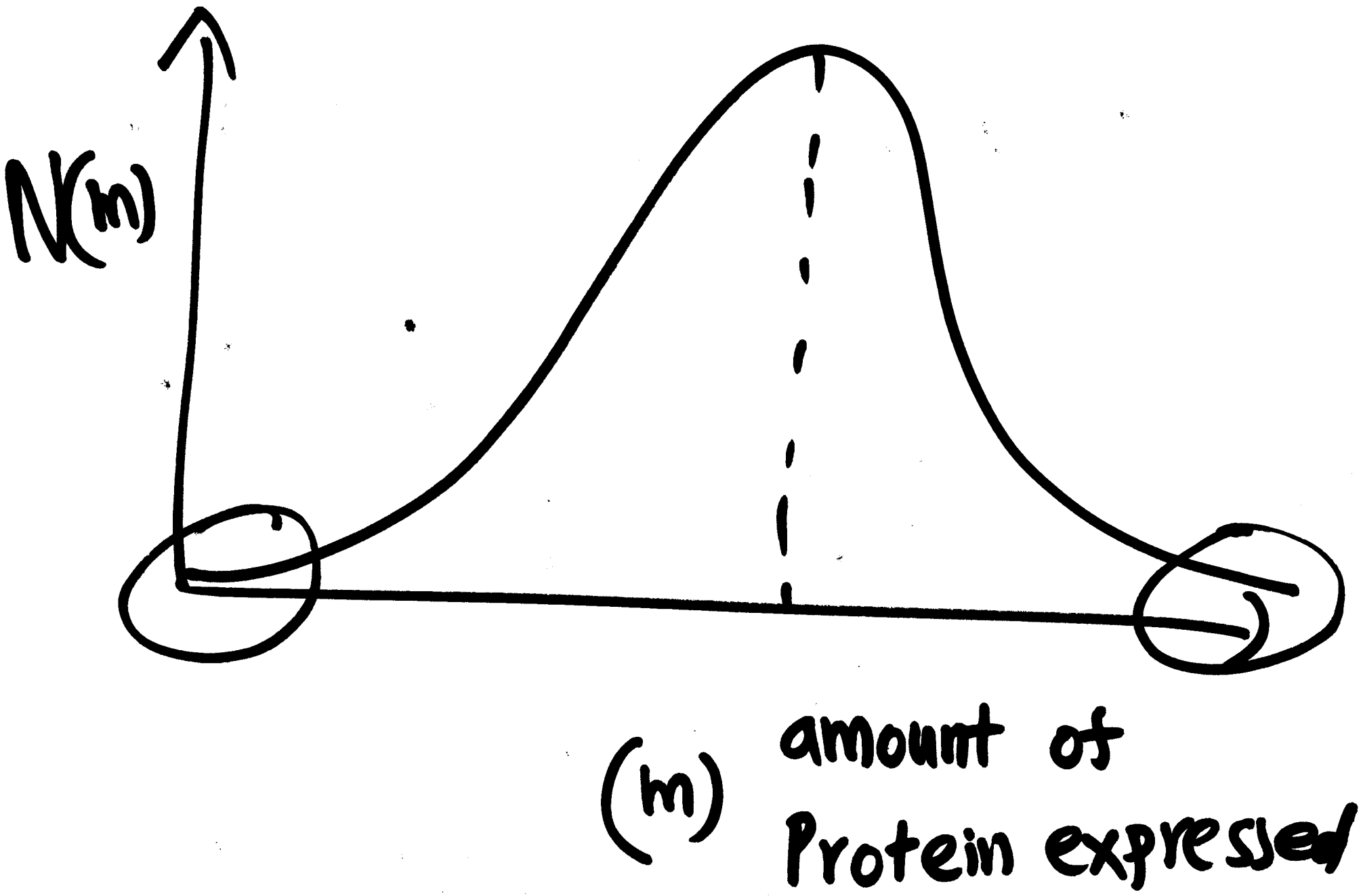
Guassian


R




e^{-BR^2}
p(R)
R=0
R=L
e^{-aR^2}


e^{-Bx^2}


N(m)
(m) amount of
Protein expressed

- Distribution
- $n(h)$

$$p(h) = \frac{n(h)}{N}$$

$$\langle h \rangle = \sum_i p(h_i) h_i$$

- Many examples