$$S = \frac{1}{1 - \frac{1}{4}} = \frac{\frac{1}{4} - \frac{1}{4}}{\frac{1}{4} - \frac{1}{4}} = \frac{\frac{1}{4}}{3}$$

$$S = \frac{1}{4} + \frac{2}{4^2} + \frac{3}{43} + \dots$$

$$-\frac{1}{1-\frac{1}{4}}=\frac{4}{3}$$

244 loop = 5120 M

$$\frac{h}{2}$$
 $O(h^2)$

(2) (5.) In limes out a loop
middle lar =
$$\frac{n^2}{2}$$

 $\frac{h^2}{4}$
 $\frac{h^2}{100} = h \cdot \frac{h^2}{2} \cdot \frac{h^2}{10} = \frac{h^5}{8}$
 $\frac{C}{8} \cdot h^5 = \frac{D(h^5)}{100}$

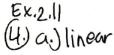
(2) (3.) = + 2.1

2" always grows more chuckly thouse

V(1)(b) exercise 1.12

G.
$$E_{121}^{N}$$
 (2i-1)= N^{2}
= $\sum_{i=1}^{N} 2_{i} - \sum_{i=1}^{N} - 2 \left(\frac{N(N11)}{N^{2}} \right) - N$

$$(P) = \sum_{j=1}^{N} \frac{1}{3} = (\sum_{j=1}^{N} \frac{1}{3})^{2} =$$



inpud size operations exectine

100 100 0.5 ms=100xtop

500 500 x ms=500xtop

1) (V(1) = 100 = 60,000 = 12,000,000

b.) O(Nlogh)

Too layou Oisms=lackagloux top

x (00 x = 60,00 = 3,656,807

c) quadratic

$$d.) \frac{x^3}{603} = \frac{60500}{0.5} = 4,432$$

50 O(N) because the For loop iterates

Not hork

Decouse the For loop iterates

Not work