The following observations represent the diameter (in centimeters) of circular pipes.

4.3	4.6	4.7	4.8	4.9	5.0	5.3	5.5	5.7	5.9	6.0	6.1	6.1
6.1	6.2	6.3	6.3	6.4	6.4	6.5	6.9	7.0	7.3	7.4	7.7	7.8

Given that $\sum x_i = 157.2$, $\sum x_i^2 = 973.84$ answer the following:

a. Find the sample **mean** and **Variance**

Sample mean $= \overline{X} = \dfrac{\sum x_i}{n} = \dfrac{157.2}{26} = 6.0462$

Sample variance $= S^2 = \dfrac{\sum x_i^2 - n\overline{X}^2}{n-1} = \dfrac{973.84 - (26)(6.0462)}{26-1} = 0.9348$

b. Using the 4.0 – 4.9 as the first class complete the following frequency table

Classes	Frequency	Relative Frequency	Midpoint	$x_i f_i$
4.0 - 4.9	5	0.1923	4.45	22.25
5.0 - 5.9	5	0.1923	5.45	27.25
6.0 – 6.9	11	0.4231	6.45	70.95
7.0 – 7.9	5	0.1923	7.45	37.25
Total	26	1.000		157.7

c. Find the mean for the grouped data

$\overline{X} = \dfrac{\sum x_i f_i}{\sum f_i} = \dfrac{157.7}{26} = 6.0654$

d. Construct a relative frequency histogram.