11.1. Graphing Data

Monday, April 16, 2018 12:16 PM

Frequency Distributions:

Large amount of data can be hard to analyze unless it is organized in some manner.

To organize lists of data points, we can construct a frequency table, dividing data into groups by using class intervals. We can draw histogram and frequency polygon.

E.g.

Commute Times							
0.3	0.7	0.2	0.5	0.7	1.2	1.1	0.6
0.6	0.2	1.1	1.1	0.9	0.2	0.4	1.0
1.2	0.9	0.8	0.4	0.6	1.1	0.7	1.2
0.5	1.3	0.7	0.6	1.1	0.8	0.4	0.8

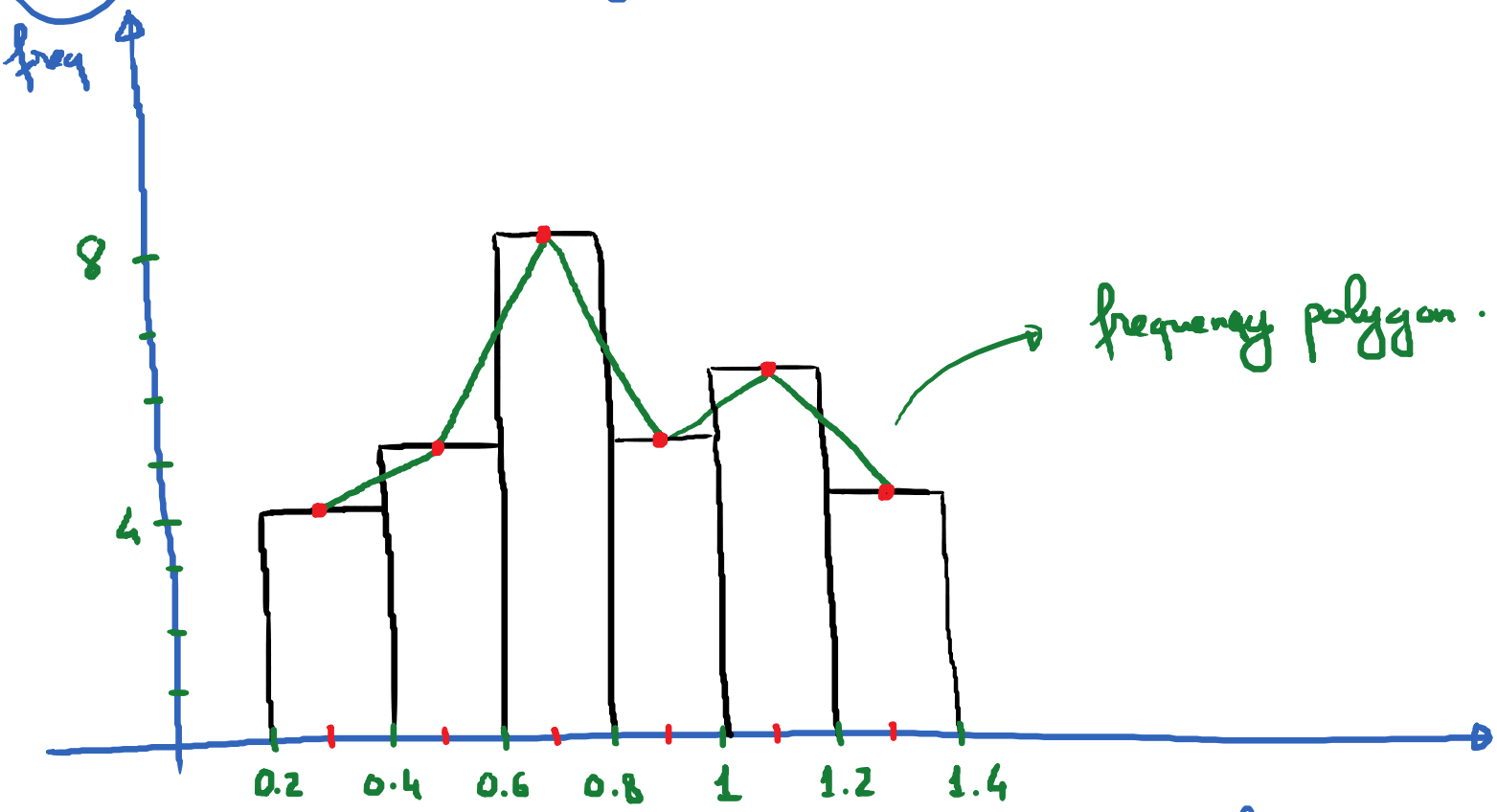
A random sample was chosen from among the employees of a company. Their commute times (in hours) to work are recorded.

Monday, April 16, 2018 12:40 PM

(I) Construct a frequency table showing the frequency, relative frequency, cumulative frequency, and relative cumulative frequency. Using class intervals of equal width starting 0.2 – 0.4

Class Interval	Freq.	Rel. Freq	Cum. Freq	Rel. Cum. Freq
[0.2, 0.4)	4	1/8	4	1/8
[0.4, 0.6)	5	5/32	9	9/32
[0.6, 0.8)	8	1/4	17	17/32
[0.8, 1)	5	5/32	22	11/16
[1, 1.2)	6	3/16	28	7/8
[1.2, 1.4)	4	1/8	32	1
Total	32	1		

II Construct a histogram and a frequency polygon.



III What is the probability that a person chosen at random from this sample will have a commute time of less than 1 hour?

Ans: $\boxed{11/16}$.