

1. Here are 32 measurements (listed from least to greatest).

1.0, 6.2, 7.2, 7.5, 9.7, 10.5, 11.4, 11.8, 12.1, 12.1, 13.6, 14.3, 14.3, 14.6, 14.7, 15.2,
16.2, 16.2, 16.5, 17.6, 18.1, 19.8, 19.8, 20.3, 20.5, 20.5, 22.1, 23.2, 23.2, 24.1, 25.8, 30.9

(a) (8 points) Create a relative frequency histogram below using 6 classes of width 5.

(b) (4 points) What proportion of the measurements are greater than or equal to 11?

(c) (2 points) How would you best describe the distribution, right-skewed, left-skewed, or symmetric?

2. You are given $n = 5$ measurements: 6, 3, 5, 6, 5.

(a) (4 points) What is the median, m ?

(b) (4 points) What is the mean, \bar{x} ?

(c) (4 points) What is the mode, M ?

(d) (4 points) What is the variance, s^2 ?

(e) (4 points) What is the standard deviation, s ?

3. A Sample space S consists of five simple events with the following probabilities.

$$P(E_1) = P(E_2) = .15 \quad P(E_3) = .4 \quad P(E_4) = 2P(E_5)$$

(a) (4 points) Find the probabilities for simple events E_4 and E_5 .

(b) (4 points) Find the probabilities for the following two events.

$$A = \{E_1, E_3, E_4\} \quad B = \{E_2, E_3\}$$

(c) (4 points) List the simple events that are either in event A or event B or both.

(d) (4 points) List the simple events that are in both event A and event B.