Unit 1 Homework - Question Set 1

A doctor examines a group of healthy adults (presenting to clinic for their annual physical exams) and records their respiratory rates, shown in the following table.

Outcome (RR in breaths per minute)	Frequency
11	10
12	9
13	11
14	14
15	10
16	6
Total	**60**

a. Calculate the mean of the sample data (n=60). Please round to the nearest tenth (e.g., xx.x).

13.4 (13.3833)

b. Calculate the standard deviation of the sample data (n=60). Please round to the nearest hundredth (e.g., xx.xx).

1.58

c. What is the median value? Please round to the nearest tenth (e.g., xx.x).

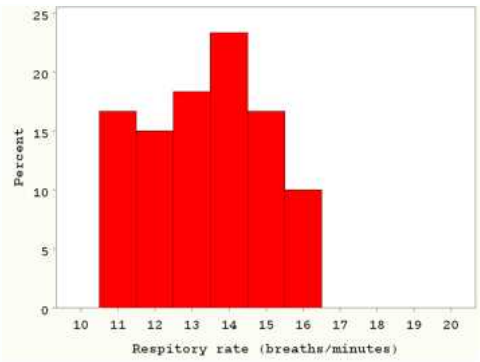
13.5

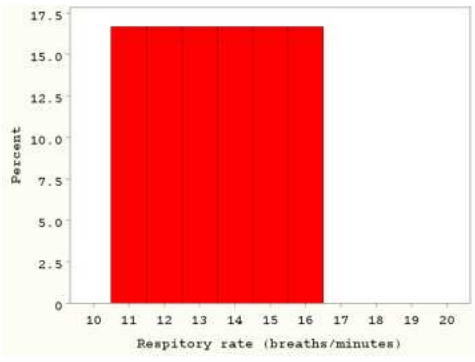
d. What is the interquartile range? Your answer should be a whole number.

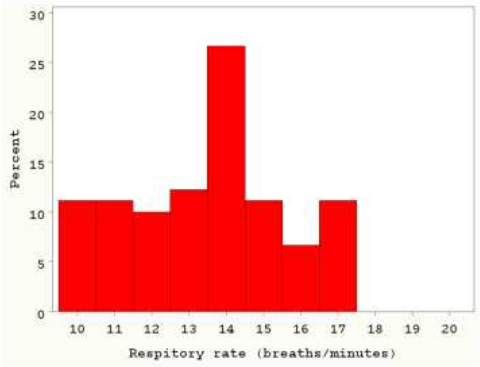
3

e. Which of the following histograms correctly pictures the data?

A







Unit 1 Homework - Question Set 2

When you flip a coin, there are two possible outcomes: {0=tails, 1=heads}. Each outcome occurs with equal probability. As an experiment, you flip a coin 100 times, with the following result:

Outcome	Frequency
0	53
1	47
Total	**100**

a. Calculate the mean of your sample data (n=100). Please round to the nearest hundredth (e.g., .xx).

0.47

b. Calculate the standard deviation of your sample data (n=100). Please round to the nearest hundredth (e.g., .xx).

0.50

c. What is the median value? Please enter a whole number.

0.0

d. What is the interquartile range? Please enter a whole number.

1

Unit 1 Homework - Question Set 3

Refer to the following table of descriptive statistics from a randomized placebo-controlled trial:

Baseline Patient Characteristics

Characteristics	Ranolazine (n=3279)	Placebo (n=3281)
Age, median (IQR), y	64 (55-72)	64 (56-72)
Age≥75y	562/3279 (17.1)	592/3281 (18.0)
Female Sex	1106/3279 (33.7)	1185/3281 (36.1)
White Race	3112/3279 (94.9)	3129/3281 (95.4)
Weight, median (IQR), kg	80 (72-92)	81 (71-91)
BMI, median (IQR)	28 (25-31)	28 (25-32)
Comorbidities		
Diabetes mellitus	1104/3279 (33.7)	1116/3281 (34.0)
Hypertension	2395/3257 (73.5)	2409/3258 (73.9)
Hyperlipidemia	2028/3016 (67.2)	2022/2982 (67.8)
Current Smoker	872/3276 (26.6)	804/3280 (24.5)
Cardiac History		
Prior MI	1119/3245 (34.5)	1095/3251 (33.7)
Prior coronary revascularization	891/3277 (27.2)	853/3278 (26.0)
Prior heart failure	538/3279 (16.4)	557/3281 (17.0)

(Excerpted with permission from Table 1, Morrow et al. Effects of Ranolazine on Recurrent Cardiovascular Events in Patients with Non-ST-Elevation Acute Coronary Syndromes. JAMA 2007; 297: 1775-1783.)

a. In the table above, what type of variable is the variable "Age, y"?

continuous variable

b. What type of variable is "Age ≥75 y"?

Binary variable

c. What statistics are used to describe the central tendency and variability of "Age, y"

1. Median and interquartile range.
2. Mean and standard deviation.
3. Mean and range.
4. Ns and percents.

d. What statistics are used to describe the variable "Age ≥75 y"?

1. Median and interquartile range.
2. Mean and standard deviation.
3. Mean and range.
4. Ns and percents.

e. What is the median weight in the placebo group (in kg, don't include units)? Please enter the value exactly as pictured in the table.

81

f. What percent of participants in the ranolazine (drug) group are male? (format xx.x, don't include % sign)

66.3

g. What percent of participants in the placebo group have hypertension? (format xx.x, don't include % sign)

73.9

h. In the table, how many variables are treated as binary? 10

i. Which of the following box plots could represent the distribution of age in the placebo group?