Here are some problems to help you revise important ideas.

1. For Data Exam manually draw a histogram with **five** (non-empty) classes.

2. The ages of a sample of 25 salespersons are as follows:

21 24 24 26 28 28 30 30 31 32 34 34 35 35 37 38 40 41 43 45 45 45 47 53 56

Construct a stem-and-leaf display repeating each stem **two times**.

#1,2 Please see class notes + Quiz1 Solution

3. Consider the following artificial data set:

3 -5 7 4 8 2 8 -3 -6

a. What is the sample size? $n = 9$
b. Find the sample mean. $\bar{x} = 2$
c. Find the median. Median $= 3$
d. Find the range. Range $= 14$
e. Find sample variance s^2. $s^2 = 30$
f. Find sample standard deviation s. $s = 5.48$
g. Find z-scores of observations -6 and 8. $z_{-6} = -1.46$ $z_8 = 1.09$

4. Consider the following artificial data:

-4, -8, -5, 8, 8, -9, 4, 20

a. Find P_{30}, P_{60}, and P_{95}.
b. Find Q_1, Q_2, and Q_3.
c. Calculate the IQR.
d. Calculate the fences.
e. Does the fence test identify outliers? Why?
f. Construct a box plot.

a. $P_{30} = -5$, $P_{60} = 4$, $P_{95} = 20$

b. $Q_1 = -6.5$, $Q_2 = 0$, $Q_3 = 8$

c. IQR $= 14.5$

d. $[-28.25, 29.75]$

e. No outliers

f. $Q_1 = -6.5$, $Q_2 = \text{Median} = 0$, $Q_3 = 8$

Min $= -9$, Max $= 20$