You are Important! - S1

We worked out the mean and the standard deviation of 50 year 11 student's heights to be:

mean 171.86 cm & standard deviation 9.96 cm

176	168	180	155	182
176	180	154	173	179
172	165	173	162	178
190	174	170	165	183
178	186	164	152	164
166	174	169	165	168
170	170	161	181	176
150	165	174	168	185
177	193	174	185	178
160	185	150	178	172

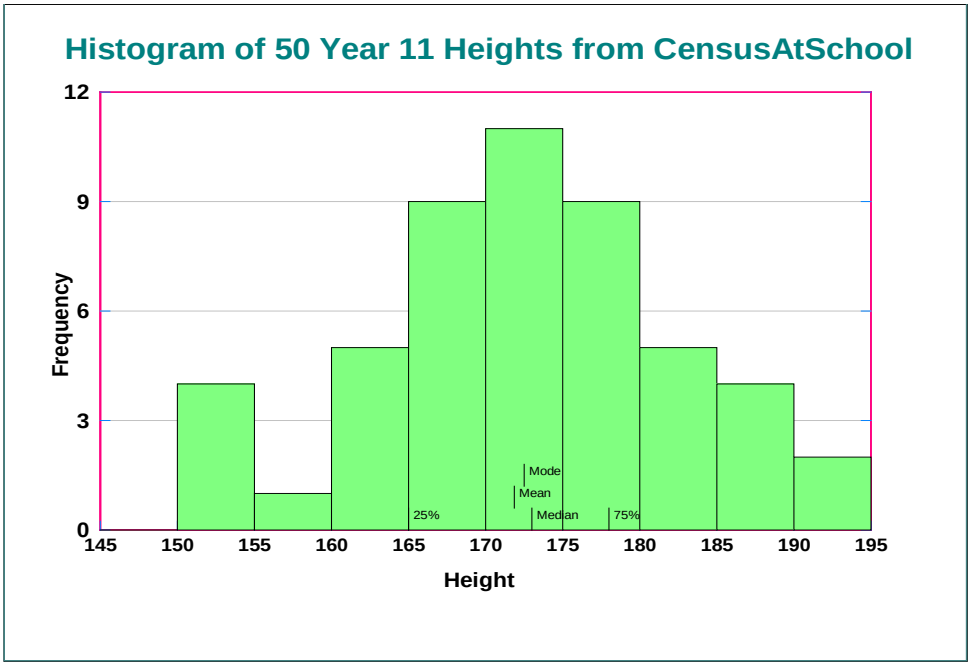
TASK A

1. You want to include yourself in these figures.
   Work out the mean and standard deviation of the 51 heights without starting all over again? Explain clearly how to do this.

2. If you calculated the mean and standard deviation of the ages in months of these same students in 10 years time how will they have changed? Explain your answers.

TASK B

Below there is a histogram of the 50 heights above. Redraw this including your height. Do the averages change?



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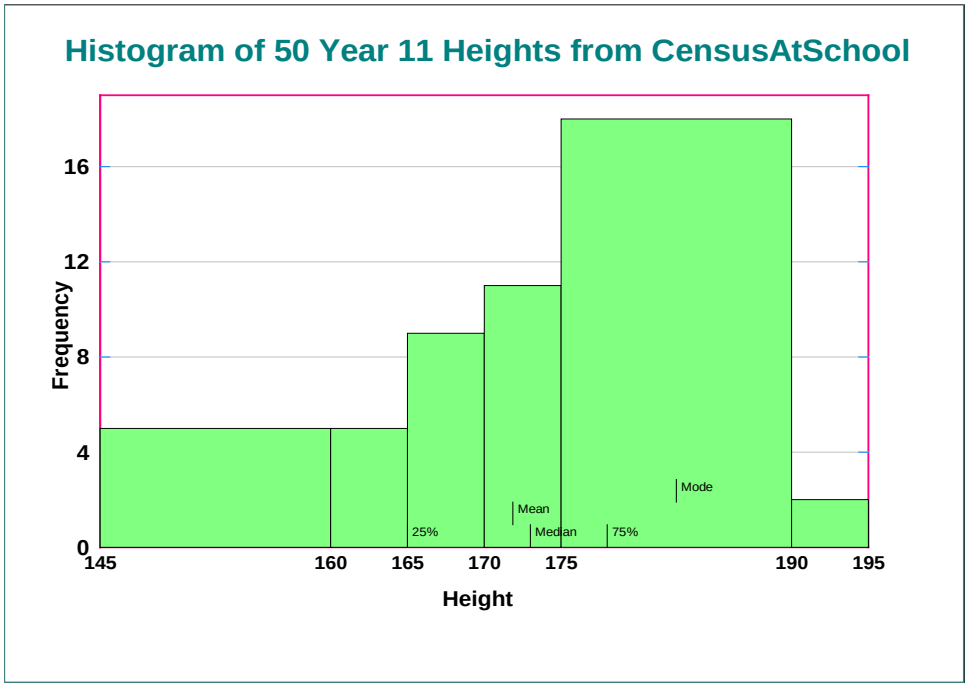
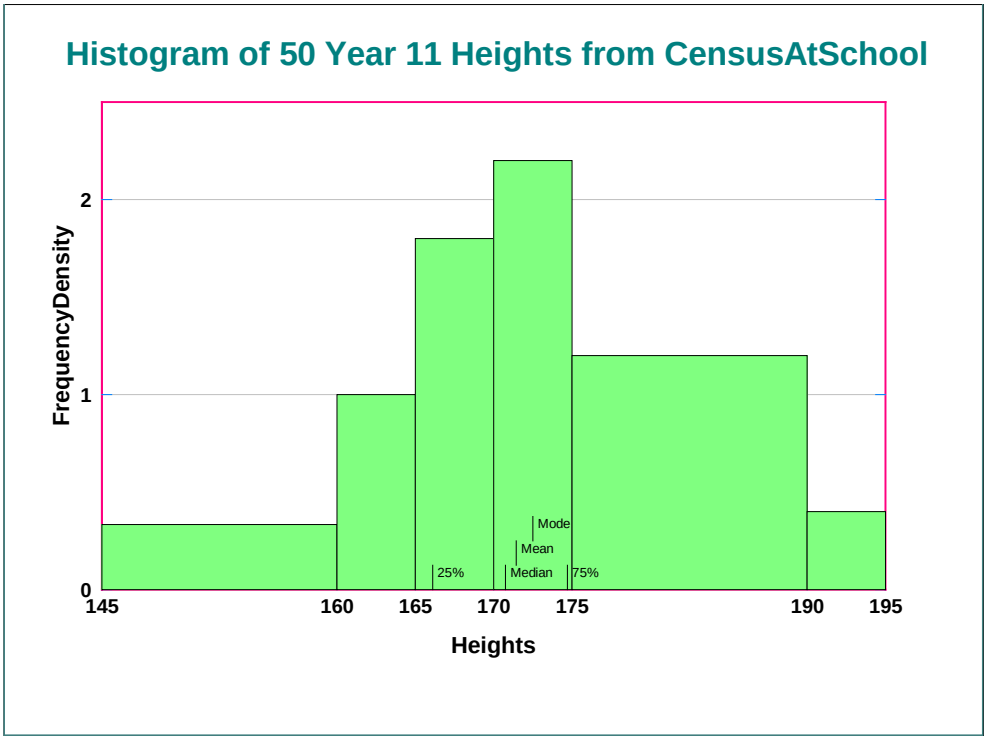
TASK C

We decided that 10 groups were too many and we wanted the histogram to only have 6 groups. We regrouped our data and drew the histogram below.

1. Explain why this is not a correct representation of the data?
2. Describe the correct way this histogram should have been constructed.



Here is a better histogram using **frequency density** on the *Y*-axis.



TASK D

1. Regroup the data to give the best possible histogram (include your data).
2. Draw this new histogram.